50 CENTS

Textile World

AUGUST, 1955

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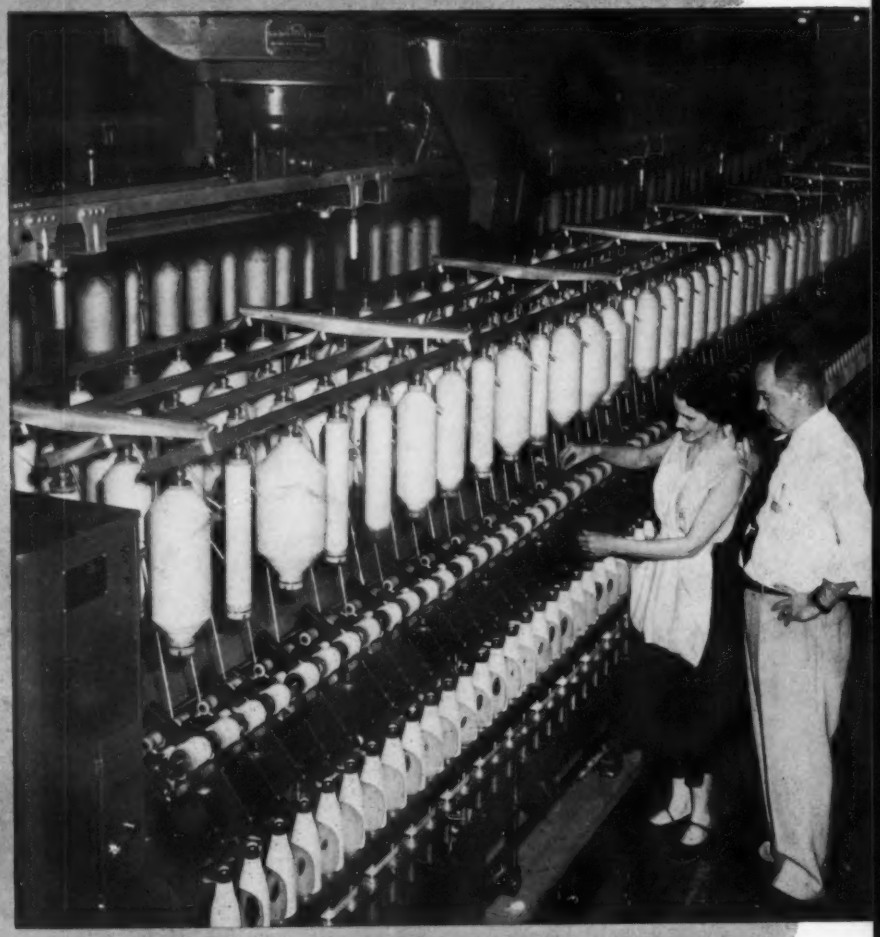

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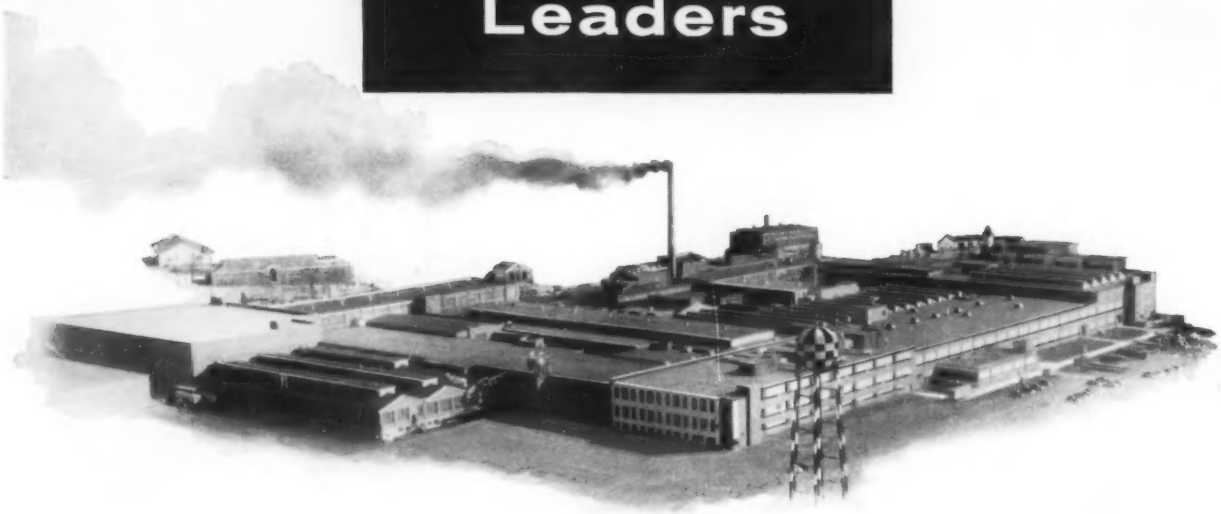
Serving America's Textile Leaders



The modern spinning mill at the Peerless Woolen Mills, Rossville, Georgia, a division of Burlington Industries, Inc., marks another important milestone in a long-range reorganization and expansion program started by the firm in 1936. This is Peerless' ninth major project completed to keep pace with the steadily-growing demand for its products and the need for modern and efficient methods and facilities.

Robert and Company Associates worked closely with Peerless in originally planning this program and have carried all of these expansion projects to completion.

For more than 40 years, we have been privileged to serve many of the great names in textiles and other fields, many on more than one project.

For Over 40 Years

ROBERT AND COMPANY ASSOCIATES
Textile Engineering Division
ATLANTA

Serving the Great Names in Textiles

Alabama Mills, Inc.
American Bemberg Corp.
Cabin Crafts, Inc.
Chicopee Manufacturing Corp.
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Davenport Hosiery Mills
Dixie Mercerizing Co.
Fieldcrest Mills, Inc.
B. F. Goodrich Company
The Goodyear Tire and Rubber Company
Mt. Vernon-Woodberry Mills, Inc.
Muscogee Manufacturing Co.
Peerless Woolen Mills *(A Division of Burlington Industries, Inc.)*
Pepperell Manufacturing Co.
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J. P. Stevens & Co.
Swift Manufacturing Co.
Swift Spinning Mills
The Springs Cotton Mills
Thomaston Mills
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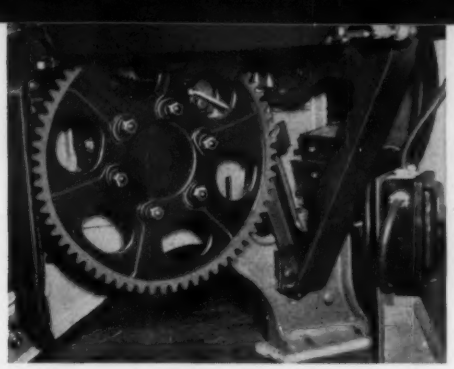
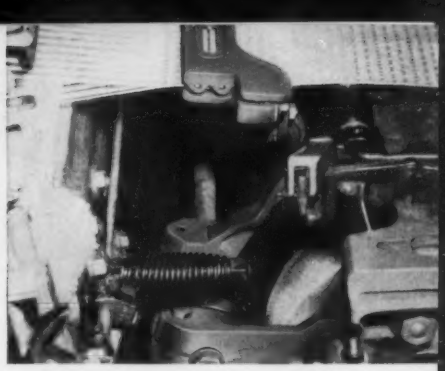
PIN AND SLEEVE TYPE PARALLEL, provides a more positive, easier picking action, improves shuttle flight control and reduces wear on all component parts.



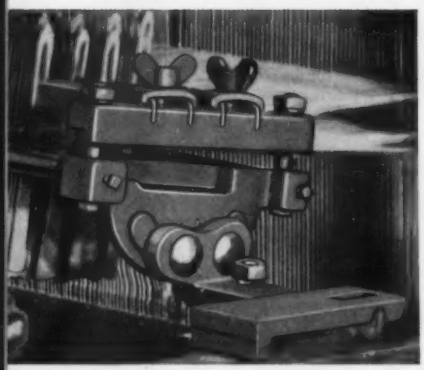
TWO-PIECE CAM SHAFT GEAR, *cuts maintenance cost.* The simplified construction of this gear permits gear turning or replacements to be made easier.



UNDERSLUNG TEMPLE, reduces "seconds" and eliminates the chance of oil, rust or dirt getting on the cloth from the temple. Requires no lubrication and temples will not wear out of line.

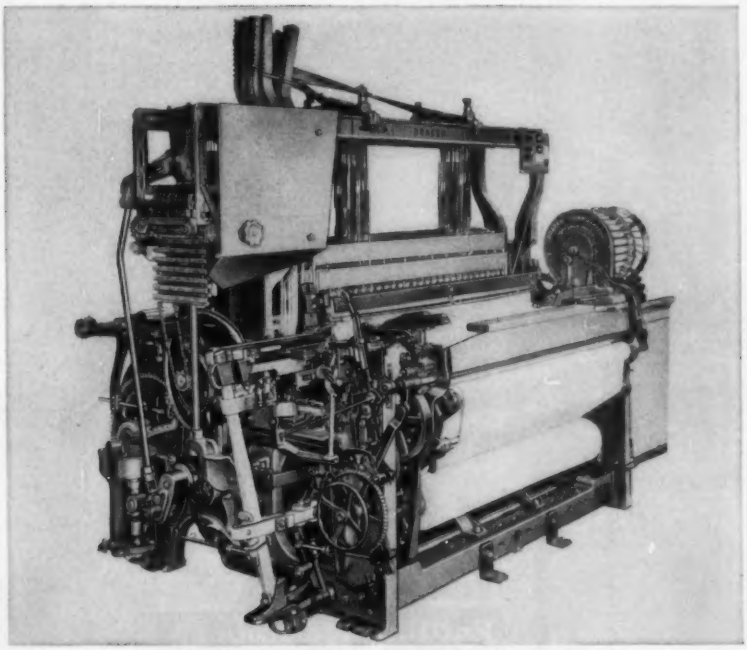
LABOR SAVING FEATURES

THAT INCREASE XD EFFICIENCY AND PRODUCTION . . . CUT MAINTENANCE



THE ADJUSTABLE ELECTRIC WARP STOP MOTION BRACKET, allows a greater range of adjustment and reduces lint accumulation of the Stop Motion parts.

PICK SHAFT WITH THRUST WASHER (Floating), reduces wear on Pick Shaft commonly caused by end thrust. Thrust is absorbed by the floating washer, assembled between the hardened steel washer and Pick Shaft Box.



DRAPER XD MODEL LOOM

The parts shown are but a few of many new applications available for the XD model loom. Each is designed to attain *maximum efficiency, continuity of service,* and *reduced maintenance.*

Every Draper part is *engineered by men who know your problem* and each is thoroughly field tested to prove operating economy under actual mill conditions.

It is this kind of practice which results in *more production, at less cost, to your mill.*

DRAPER CORPORATION

HOPEDALE, MASS.

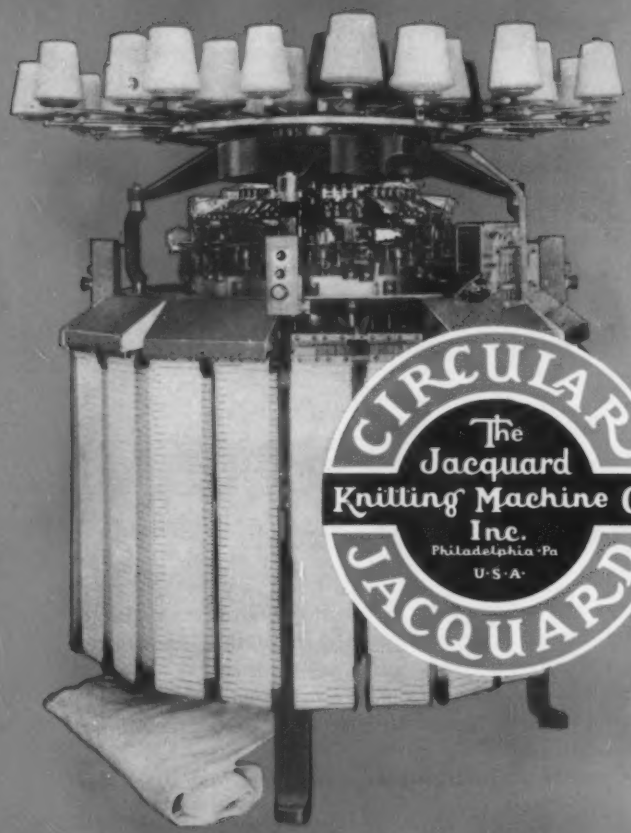
ATLANTA, GA.
GREENSBORO, N. C.
SPARTANBURG, S. C.

only "CIRCULAR JACQUARD" offers Unlimited Pattern Designs

No other circular knitting machine has the pattern range of the Circular Jacquard TJI-12. Fully automatic, the TJI-12 offers the largest selection of knitted fabrics in either synthetic or natural fiber yarns.

Knit-on cuffs are a quality feature and pattern cards permit any design, regardless of width, length or placement. Special cams allow interlocked fabrics without jacquard pattern cards.

Twelve feeds for maximum production and cuts up to 14 needles per inch *with single needle control* make the TJI-12 the most versatile knitting machine in the Outerwear field today.



the world's largest manufacturers of circular jacquard knitting machines

JACQUARD KNITTING MACHINE CO., INC. Philadelphia 24, Pa.

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NEWS of the MONTH

Tariff Fight Continues

Protests against the enactment of HR 1 continue to be heard from textile-industry spokesmen.

"Our whole future now depends upon a reasonable quota limiting textile imports. Such a plan is being drafted and will be submitted to the President and Congress as soon as possible," said John K. Cauthen, executive vice-president, South Carolina Textile Manufacturers' Association.

A. K. Winget, president of the American Cotton Manufacturers Institute, in a speech before the Southern Textile Association, accused the State Department of "flouting the obvious intent of Congress and moving forward to liquidate cotton manufacturing and cotton farming in the United States."

A release from ACMI's Washington office said: "The range and severity of the tariff cuts are devastating. They hit at 80% or more of this country's entire fabric production."

J. Spencer Love, head of Burlington Industries, was reported by the Associated Press to have said that if the tariff laws are not changed within a few months, Burlington will consider building plants in Japan to utilize the cheap labor available there.

BAUDOUIN, KING OF THE BELGIANS, and directors of the Second International Textile Exposition pass the stand of Deering Milliken Research Corp. of Pendleton, S. C., on the opening day of the recent textile show at Brussels, Belgium. Deering Milliken Research Corp., which displayed some of its machinery developments and its Agilon stretch yarn, was one of about 20 U. S. exhibitors at Brussels.

Japan's Exports High

More cotton cloth was exported in April from Japan to the United States than to any other country, for the first time in history. Exports to the U.S. totaled 19,178,000 yds. The United Kingdom purchased 7,620,000 yds. Last year, the U. S. held eighth place on Japan's cotton-cloth export list.

Overseas Cotton Program

The experience of the National Cotton Council in moving cotton into consumption will be made available to the Free World countries of Europe, Asia, and Latin America under terms of an agreement announced by the Council and the Department of Agriculture.

Technical assistance in planning and operating market-research and sales-promotion programs for cotton textiles will be offered private cotton-textile industries in major cotton-consuming countries. This move could result in greatly expanded consumption and a larger market for U. S. cotton textiles and raw cotton.

Initially, it is expected that some of the funds derived from the sale of agricultural surpluses under Public Law 480 will be used to finance part of the cost of these programs.

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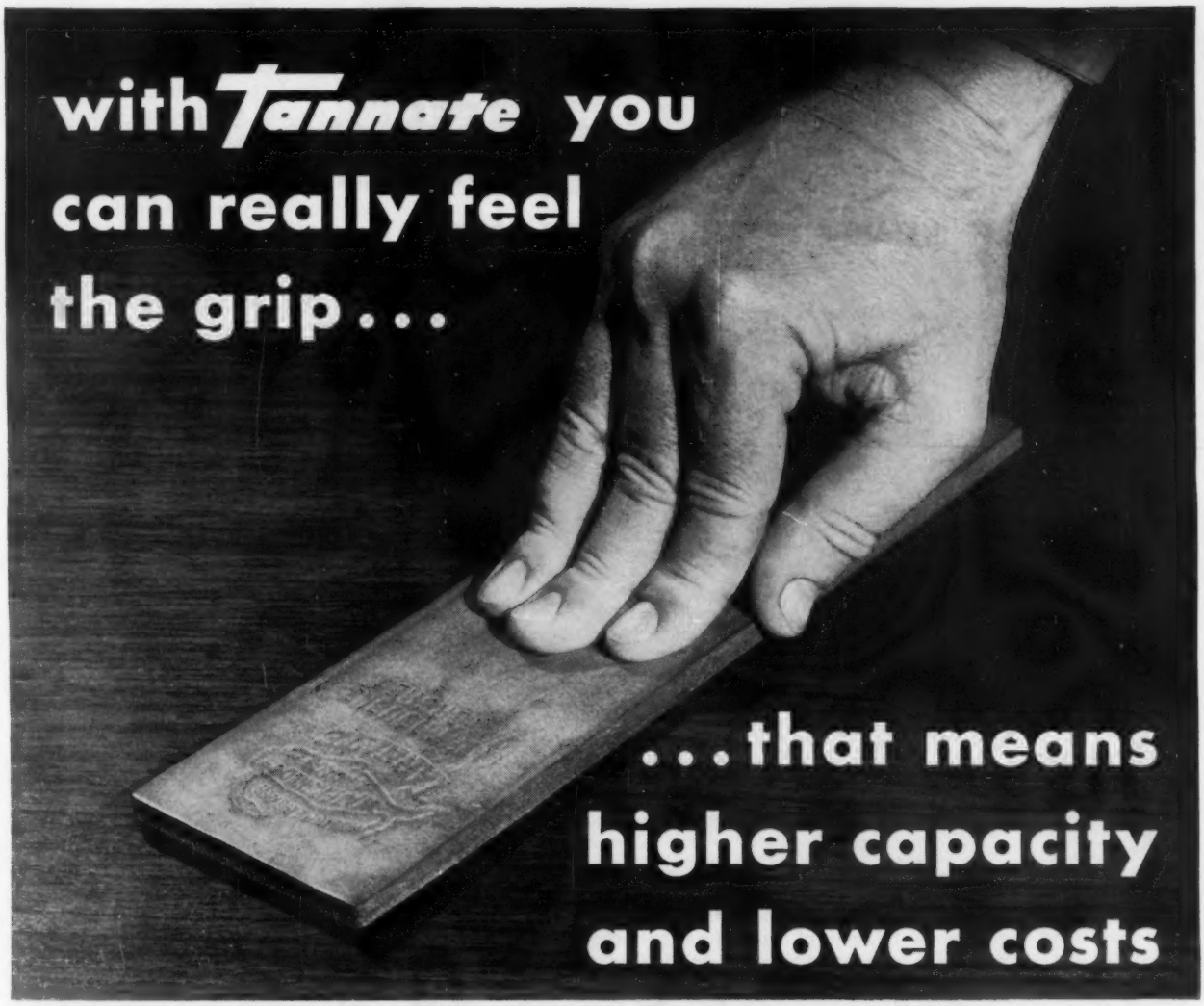


Take a piece of Tannate Leather Belt and compare its grip with any ordinary Belt.

Place this sample (we'll be glad to furnish you one) on your desk. Press down firmly as you slide it along and see how well it grips. This same glove-like grip means extra capacity on your drives. As you know, extra capacity usually means additional production, longer life, and less maintenance. This is just one of the many features that are the result of Rhoads special tannage . . . a tannage combining in one belt all the qualities most important for flat belt transmission of power.

Atlanta **New York** **Chicago**

RHOADS

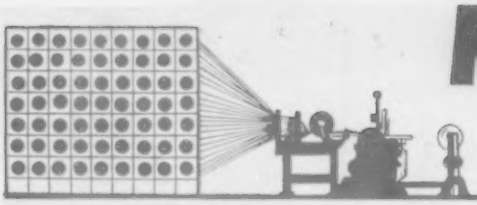
J. E. Rhoads & Sons
2100 W. Eleventh St., Wilmington 99, Del.

Please send me a sample of Tannate Belt. No obligation, of course.

Name_____ Title_____

Firm_____

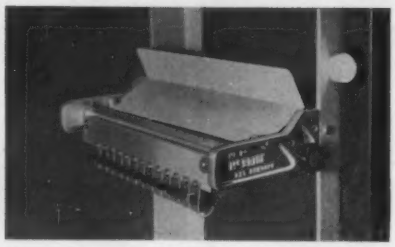
Address_____



McBRIDE CREEL CORNER

NOW — McBRIDE INSTANT-STOP WITH SELECTIVE CONTROL PERMITS INSTANT CAST-OUT OF INDIVIDUAL ENDS

Stop Motion in operating position. Colored button controlling entire bank is on; 4 individual switches controlling 4 drop wires on off position for 4 inactive ends. Note ends may remain threaded through drop wires.



Stop Motion cover in raised position to show details of new individual controls. All cast-out switches are in on position. Signal light is blinking indicating that locking bar is up for threading-in position.

Entire bank of Stop Motions cut-out by master red switch on right. (Yarn here removed from stop motion to allow cover to be raised and details shown.)

The flick of a switch is all it takes to cast out individual ends. Inactive ends are promptly reactivated because the yarn stays right in the drop wire. There's no time-consuming, cumbersome tying-up of drop wires for inactive ends. Now any individual end—or an entire bank of ends—may be cast out or reactivated by a simple switch. The 1955 McBride Instant-Stop has been completely redesigned for greater *durability, flexibility, accessibility.* Drop wire is now rigidly held yet still gives instant action.

Three-Way Signal Light

McBride Instant-Stop may be equipped with a three-way signal light with signals as follows:

1. Light out—creel operating satisfactorily.
2. Light on—indicates broken end.
3. Light blinking—Stop-Motion in threading-in position.

Lights may be positioned on sturdy, hinged light channel to make them visible to warper, creeler, or both.

Instant-Stop is available in three sizes:

Supersensitive for light yarns, as low as 12 denier nylon.
Standard for intermediate weight yarns.
Heavy Duty for tire cord, asbestos, and wire.

LET McBRIDE STUDY YOUR WARPING SITUATION. YOU MIGHT BE SURPRISED WITH THE COSTS YOU CAN SAVE, THE IMPROVED QUALITY IN THE WARPS YOU PRODUCE.

CREELS for every purpose, CONE HOLDERS, STOP MOTIONS, TENSION CONTROLS, WARP BEAMS, FLANGES, CARPET INSPECTION TABLES, METAL AND WOOD ROLLS.

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Mill Developments

► A new yarn-evaluation method was described at a meeting of the American Society for Testing Materials by G. D. Mallory, Goodyear Tire & Rubber Co. Fatigue properties of new, unknown yarns can be compared with established yarns without plying or using adhesives. The effects of moisture and size content also were discussed. Only a few hundred yards of yarn are needed for the tests.

► Orlon-and-silk satin is now being used by top-flight American dress designers, according to Du Pont. The fabric is said to have an unusually rich feel and luster.

Fiber News

► United States producers of rayon and acetate yarn, staple, and tow shipped 102-million lbs. in May, a decrease of 9% compared with April, but 11% more than in May of 1954, according to *Textile Organon.* Exports accounted for 1-million lbs. of total shipments.

► Unfilled orders on carded-cotton sales-yarn spinners' books as of June 4 amounted to 9.33 weeks' production and were 4.76 times the stock on hand. Spinners' inventories on June 4, including yarn for future delivery against unfilled orders, amounted to 1.96 weeks' production.

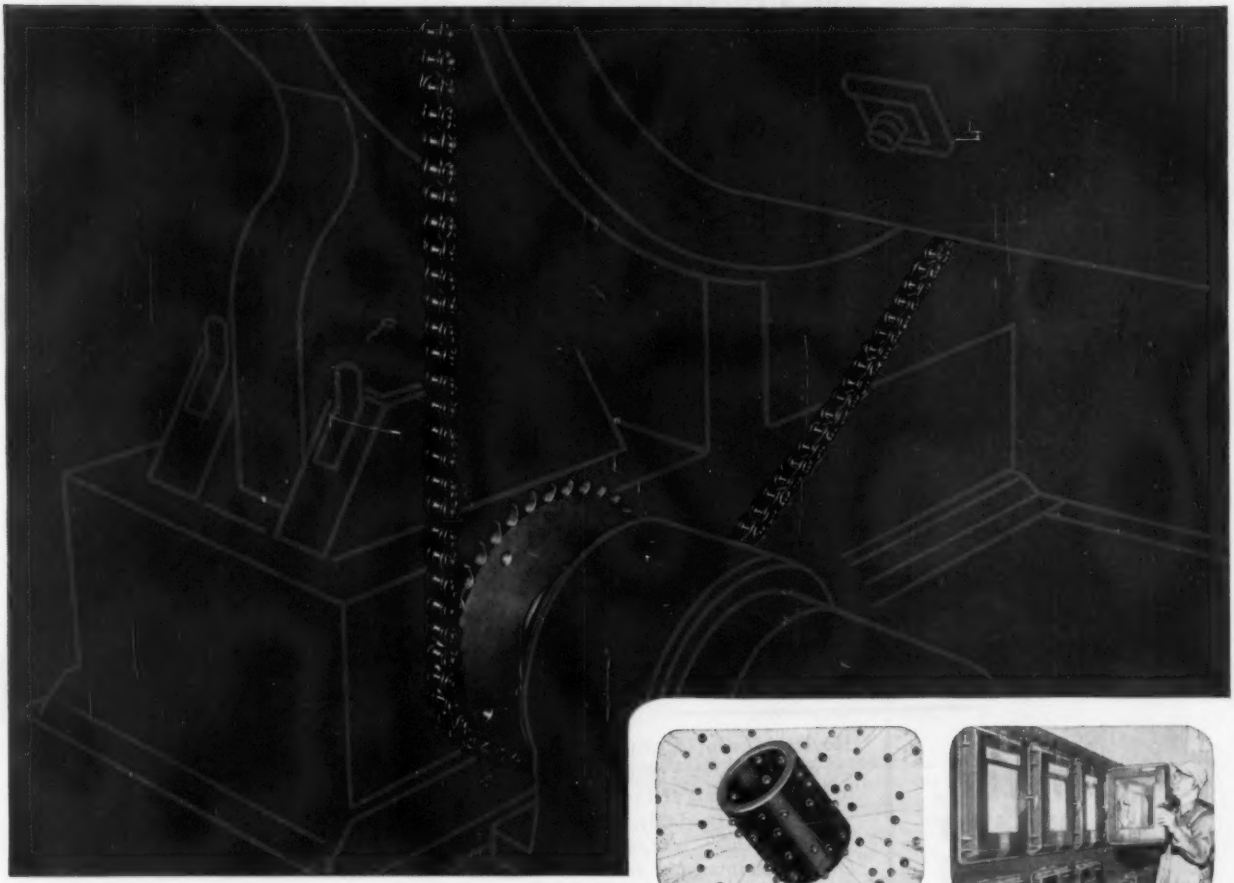
► A steadily improving outlook for wool is apparent in many segments of the textile and clothing industries, according to The Wool Bureau. The brightening sentiment is evident in a rise in mill consumption of apparel wool, an increase in new orders for civilian apparel fabrics, and a sharp resurgence for wool fabrics in markets such as men's outer-wear and boys' clothing.

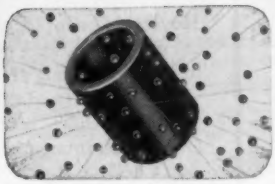
► The defunct flax-processing industry is attempting a comeback in Oregon. Williamette Flax Products has acquired the old Santiam Flax Growers' plant built at Jefferson in 1941. Improved continuous-processing equipment, said to shorten the processing cycle to about 10 days, is expected to permit the new company to compete with foreign flax imports. At one time, there were 20 flax plants operating in the state.

News Briefs

► A new cellophane-overwrapped container, claimed to be the first rigid self-service package to show the welt, seam,

How these EXTRAS* make roller chain last longer

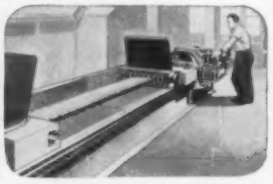




SHOT-PEENED ROLLERS have greater fatigue life, added ability to withstand impact.

CLOSER HEAT-TREAT CONTROL — coupled with rigid testing insures uniformity.

LOCK-TYPE BUSHINGS (applied on a range of sizes) end a cause of stiff chain.



PRE-STRESSING of multiple width chain provides uniform load distribution.

*And you pay no premium for these LINK-BELT extras

THERE'S more to roller chain than just the parts you see. *Much more!* It's the hidden extras—standard on Link-Belt Precision Steel Roller Chain—that add up to longer life and lower costs.

Check the four extras shown here. Then for your demanding drive and conveying jobs, choose from the complete line of Link-Belt roller chains and sprockets: Single or multiple widths, ¼″ through 3″ pitch. Double pitch, 1″ through 3″. There's full ordering and application information in 148-page Data Book 2457. Ask your Link-Belt office or distributor for a copy today.

LINK-BELT

ROLLER CHAIN & SPROCKETS

13,000

LINK-BELT COMPANY: Executive Offices, 307 N. Michigan Ave., Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office: New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World.

NEW...Sales-winning TEXTILE PACKAGING

for better protection, better economy, better buyer-acceptance...

EASY AUTOMATIC OPERATION

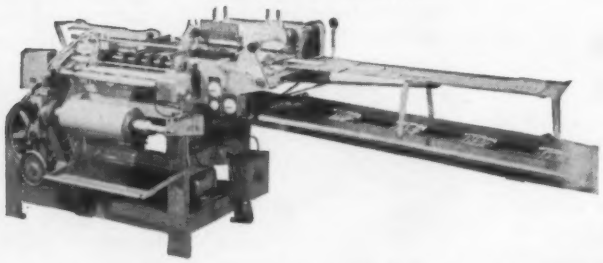
Regardless of size or shape, you get a neat, tight, perfect-register wrap on every package with a Hayssen automatic wrapping machine. Also, production men report savings up to 80% over previous wrapping costs.

FASTER, SIMPLE TO CHANGE SIZE

No complicated adjustments from size-to-size on a Hayssen. No gears or sprockets to remove or change... no need for expensive mechanics to change size, either. So simple the operator does it on the job.

COSTS LESS, DURABLY BUILT

Hayssen's simple, rugged design, using fewer moving parts, keeps these machines working and saving through years of dependable, trouble-free service. Both the cost of the machine and the maintenance are so low you won't believe it.



Let our Packaging Engineers help you with your packaging problems... WRITE US TODAY for further details.

Hayssen MFG. COMPANY

Since 1910, Manufacturers exclusively of automatic wrapping and packaging machines.

Dept. TW-8, SHEBOYGAN, WISCONSIN

Atlanta • Boston • Chicago • Dallas • Denver • Detroit • Los Angeles • Minneapolis
New York • Philadelphia • St. Louis • San Francisco • Seattle • Montreal • Toronto

and sheerness of ladies' hosiery, has been developed by Craft Co. The package, called Tray-Pak, consists of a shallow cardboard tray containing a printed insert card giving the style, yarn content, length, and size. Overwrap is Avisco cellophane printed by Lassiter Corp.

►J. P. Stevens Co., Inc., New York, is introducing a line of decorated percale sheets and pillowcases in folding cartons designed and made by Robert Gair Co. Both bed linens and cartons take advantage of the universal appeal of Disney cartoon characters. For example, a pair of crib sheets is packed in a folding-carton cradle printed with Disney characters. The added hood and rockers give the package a re-use value as an actual cradle for a doll.

Letters From Readers

What's on your mind?

We welcome your comments. Whether you agree or disagree, with us or anybody else, we will be glad to have you air your views.

Unless you ask us not to, we will use your name and company connection when your letter is printed. If you prefer to have your opinions appear unsigned, we will respect your confidence by using only a set of initials.

Write to Editor, Round Table, TEXTILE WORLD, 330 W. 42nd St., New York 36, N. Y.

BETTER EMPLOYEE RELATIONS

Dear Editor:

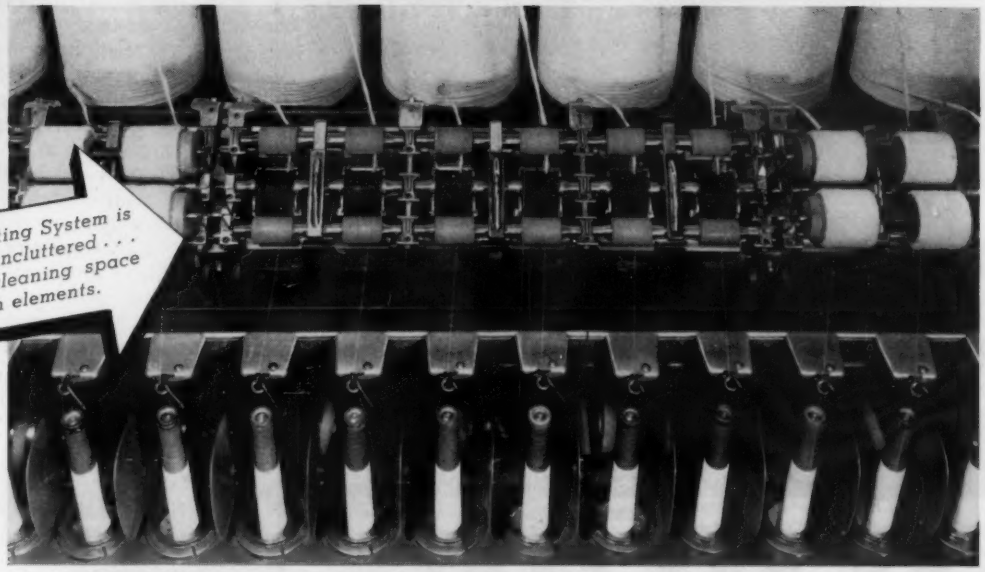
It is gratifying to see how much interest is shown by employees whose pictures are used with the articles I have written for TEXTILE WORLD.

When the articles on air conditioning [TW, Jan., '55, p. 90] and our machine shop [May, '55, p. 116] were published, the employees whose photos were used took a great deal of pride

For more information, write direct or use Reader-Service post card.

MODERNIZE SPINNING

. . . THE SIMPLEST, MOST EFFECTIVE (AND LEAST EXPENSIVE) WAY



Roberts Drafting System is simple and uncluttered . . . with more cleaning space between elements.

ROBERTS HIGH DRAFT

Simplest All variables eliminated. No bearing gadgets, springs, pivots, or other elements to vary from spindle to spindle or month to month.

Most Effective Concentrated tests prove higher break factors, lower ends down, better yarn evenness and greater consistency of performance.

Least Expensive The simple combination of gadget-free elements provide a lower first cost and the lowest maintenance cost.

★ ROBERTS HIGH DRAFT SPINNING MODERNIZATIONS

- Partial or complete Drafting System Changeovers
- Increased Draft Constant and Hardened Draft Gearing
- Streamlined Creels for Larger Packages
- Ball bearing Cylinders and Tape Tension Pulleys
- Increased Traverse on Bobbin
- Roller Bearing Spindles
- Rings and Ring Holders
- Inspection and Replacement of all other Parts

★ ROBERTS HIGH DRAFT DRAFTING SYSTEM

- a true double apron system
- a simple, uncluttered drafting system with all variable elements omitted
- the narrowest possible cradles, aprons and cots consistent with the gauge
- positively set and maintained top roll settings
- proper and unchanging weight distribution
- elimination or reduction of top roll and bottom roll lubrication
- strengthening of the draft gearing by use of hardened gears and studs plus increase in head-end roll neck diameters.

In addition to supplying all or any part of the above modernization material, we can provide a complete "turnkey job" including all installation and erection. The experience gained in the installation of more than 1¾ million spindles of Roberts High Draft is available to you on the smallest Changeover or the most complete Modernization.

ROBERTS COMPANY

Sanford, North Carolina, U. S. A.

REVOLVING **BARCO** JOINTS

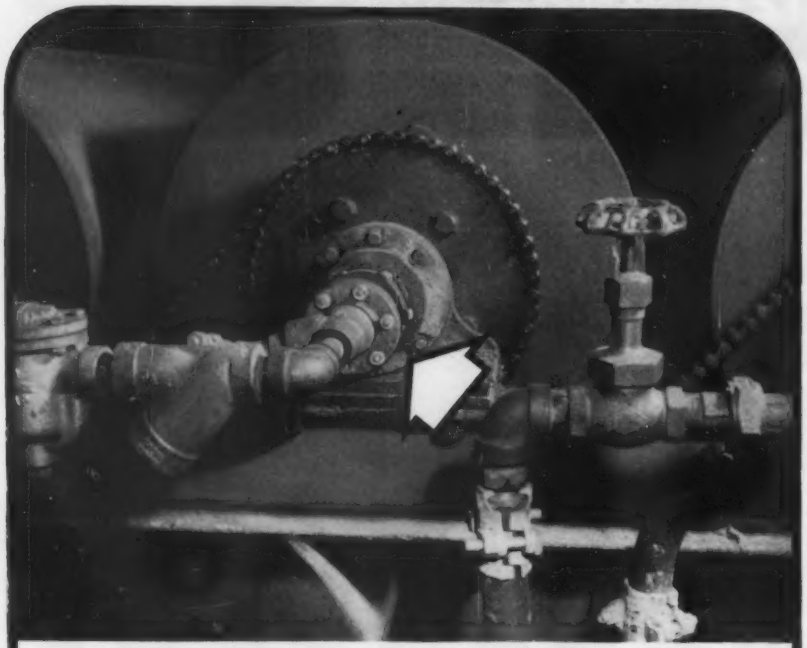


Photo: Chicopee Mfg. Corp., Springfield, Mass.

ON DRY CANS
Users Get These Benefits:

1. LONGER TROUBLE-FREE SERVICE—Here is protection you can get against expensive "down time". New Barco Type IBR Revolving Joints are built to maintain a leakproof seal month after month and year after year without costly maintenance and repair.

2. LOWER POWER COSTS—Barco Joints make a real difference in your power costs—up to 50%—because they run freely and are ball bearing equipped. Little affected by increases in pressure, temperature, or speed.

3. BETTER PERFORMANCE—Full steam flow. Tight seal for maintenance of good drainage. Accurate control of temperature. Single flow or syphon styles.

GET THE FACTS NOW

You can prove it on your own equipment! Send for complete information and a copy of Catalog No. 300.

Barco Type IBR Revolving Joint

BARCO *Manufacturing Co.*

534J Hough Street • **Barrington, Illinois**

For more information, write direct or use Reader-Service post card.

in showing them to their families and to other employees. They are naturally elated over the recognition they receive in a popular magazine like TEXTILE WORLD that has an extensive circulation.

We strongly believe that articles of this type tend to promote better employee relations; and we favor using, whenever possible, pictures that show some of our employees.

We carry this idea further in our plant publication, *News & Views*, which publishes stories and pictures about some of our employees and the activities that are carried on in the plant. . . . Copies of *News & Views* are sent to employees' homes, and you can imagine the pleasure experienced by the families and friends of employees mentioned in the publication.

GEORGE A. ESTABROOK
Chief Engineer
Albany Felt Co.
Albany, N. Y.

WHOSE FAULT ARE HALF-BAKED IDEAS?

Dear Editor:

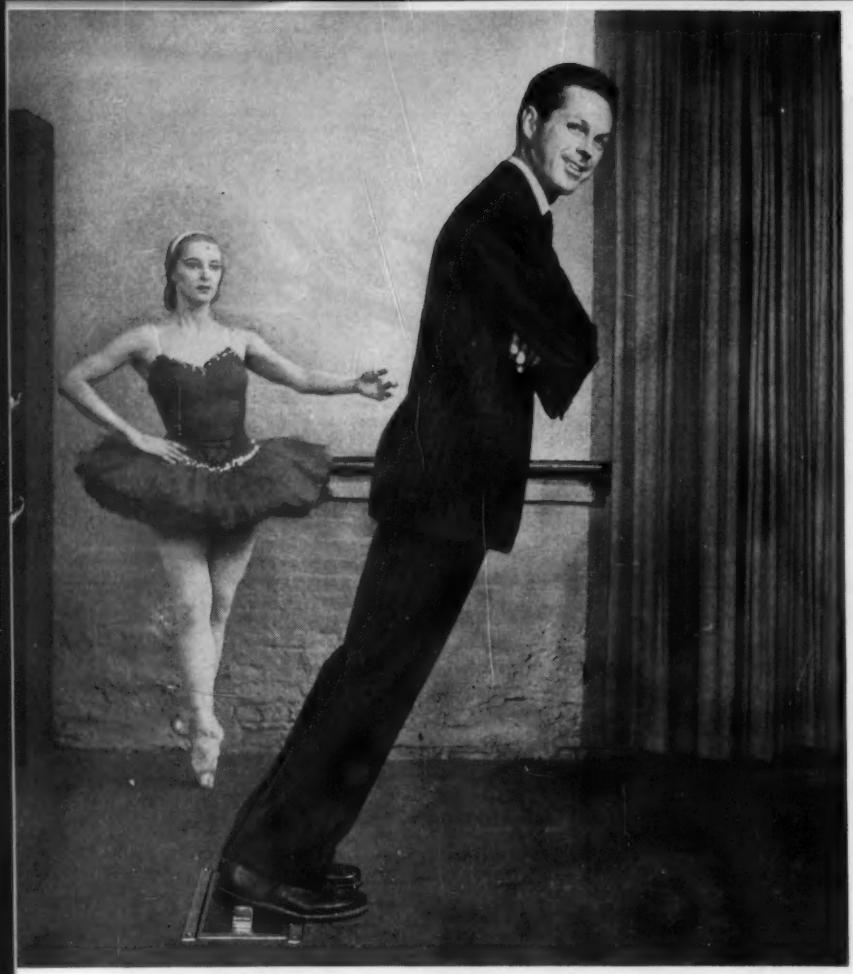
If mill management accepted all the ideas that come up from the ranks, it would soon be in real trouble. However, some of the supposedly half-baked ideas actually need only a little more development to make them worth top-level consideration.

Who is at fault when a steady flow of worth-while ideas turns into a jumble of impractical plans? Possibly the foreman more than any other one person. Yet if management bothers to set him straight, he may become a most important link in the chain of useful thinking that reaches from workers right up to the mill's top men.

Foremen should be taught the dangers of rushing into action when an employee merely wants a chance to discuss something or "kick it around," as he may express it. He needs time to develop what he has started; two or three brief sessions may be necessary before he gets all his thoughts in proper shape. Impatience at this point does not permit him to do full justice to his idea or to advance it as far as he himself is capable of doing.

Relatively few workers can sit down and outline their thoughts in complete detail. So the first discussion may leave many loose ends to be handled in later conversations. Only when the originator of the idea indicates that he has developed it to the full extent of his ability should the foreman start it on its way to the top.

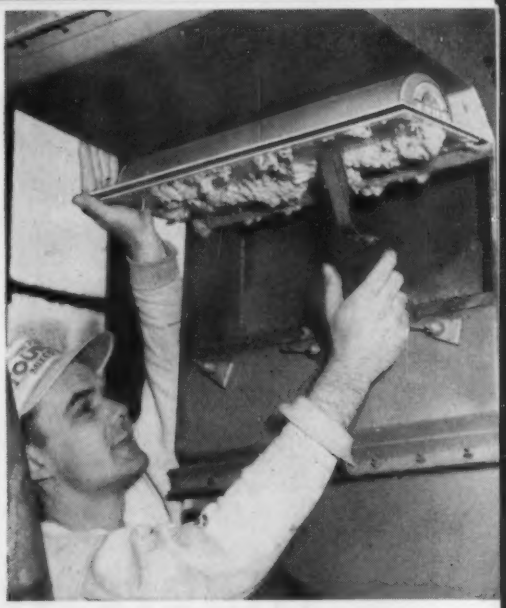
GEORGE M. DODSON
Harrisburg, Pa.



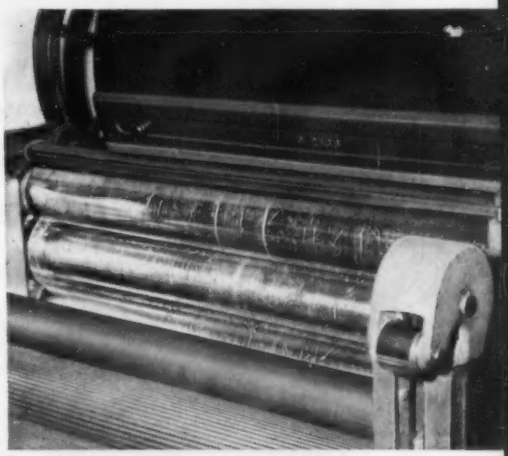
NOT NAILED TO THE FLOOR! Here's an idea for publicity men who used to create "gag shots" by nailing down shoes. Just use a piece of iron on the heel of the shoe and an Eriez Magnet set in the floor. To textile men, however, this demonstrates another idea — powerful magnetic action which can quickly be put to work pulling dangerous tramp iron out of processing lines in cotton, woolen, rayon and waste mills . . . tramp iron which causes fires, machinery damage and loss of production. *All Eriez Magnets are non-electric, self-contained. They operate without wires or attachments. Best of all their magnetic power lasts a lifetime. The first cost is the last.*

MAGNETIC IDEAS FROM ERIEZ

ERIEZ SPIKED APRON MAGNET PREVENTS FIRES. Designed especially for textile use, these magnets pull dangerous tramp iron from material moving in processing lines in cotton, waste and woolen mills. Reports show that equipment protected by these magnets extends card and garnett clothing life four and five times. More important is the added benefit of Eriez Permanent Non-electric Magnets as a means of fire prevention, by removal of tramp iron. Eriez Spiked Apron Magnets are so efficient they bear the Associated Factory Mutual Stamp of Approval. A recent survey showed that *9 out of 10* mills preferred to equip with Eriez Permanent Magnets. Want more information? . . . request Bulletin 563.



NO METAL MEDDLES IN THIS COTTON LINE. Whitney Cotton Mills, Inc., Hamden, Conn., found that an inexpensive Eriez Magnetic Hump was the solution to dangerous fires and costly machine damage caused by tramp iron. The magnet, designed to remove nails, wire, pins, etc., from cotton tailings used for furniture backing, is located in the pneumatic line between a picker and condenser. Previously, tramp iron did extensive damage to garnetts and caused considerable downtime. Since installing the Magnetic Hump, production has increased, downtime has been eliminated, and an annual repair saving of approximately $3,000 for each of three garnetts has resulted.



THE WOEFUL ROLE OF PICKER CALENDER ROLLS. When's the last time you checked your calender rolls? Did they look like those above . . . damaged by pieces of stray metal that left lasting impressions, and also damaged lickerin and card clothing? Chances are, your own equipment has also suffered because of spikes from aprons, ring travelers, nails, screws, bottle tops, etc. But now you can prevent machinery damage, reduce downtime, and eliminate poor card performance with an Eriez Permanent Non-electric Magnet. Why not invite an Eriez representative to look at your equipment? He'll be glad to survey your plant and recommend one of the many Eriez Magnets designed specifically for the textile industry.

Eriez' free booklet "Magnetic Ideas" can help you. Send for it without obligation. Address: Eriez Manufacturing Company, 101V Magnet Drive, Erie, Pa. Or, on your specific request Eriez' factory-trained field men backed by Eriez' laboratory and engineering know-how will be happy to study your particular problem, make a plant survey and offer helpful "Magnetic Ideas".

Century

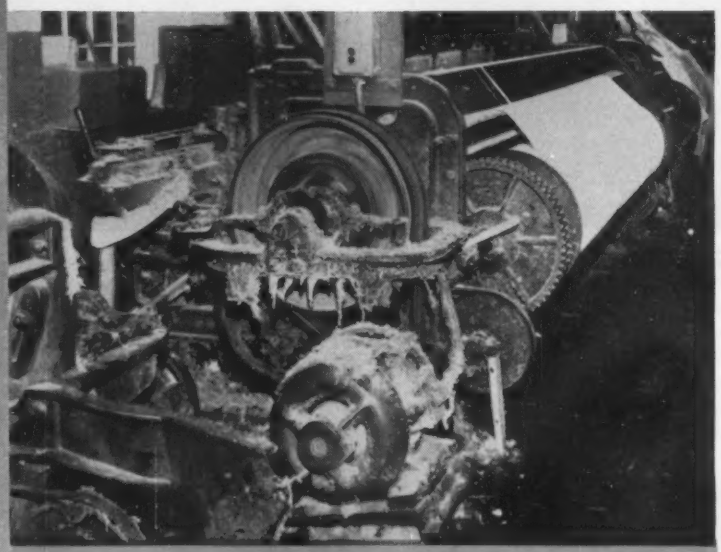
Performance-Rated®

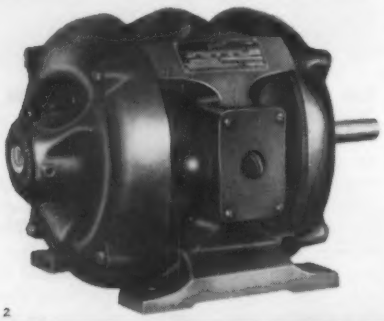
TEXTILE MOTOR

Clears itself of clogging lint!

for dependable service on this big 120" loom

- Big, wide, obstruction-free ventilating passages let lint flow through. Strong-blasting integral cast aluminum rotor fans keep vital parts lint-free
- The clean, cool ventilation of Century Performance-Rated Textile Motors means extended insulation life... deliver more dependable operating hours in your plant
- You'll find a Performance-Rated Century Motor to fit your job in Century's broad and varied line. Ask for Textile bulletin 14-193, page 1. Other bulletins available on AC or DC Motors... ⅛ to 400 H.P.—Drip Proof, Splash Proof, Dust Proof, Explosion Proof





For full information, **contact your nearby Century District Sales Office or Distributor.**

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1/8 to 400 H. P.

C

CENTURY ELECTRIC COMPANY

1806 PINE STREET • ST. LOUIS 3, MISSOURI

For more information, write direct or use Reader-Service post card.

How much does it cost you ...for "Sew-and-Sews"?

Too-frequent cloth defects . . . such as broken ends, broken picks, drag-ins, skips, and filling kinks *that have to be sewn* . . . can cause costly flaws in your profit-and-loss picture.

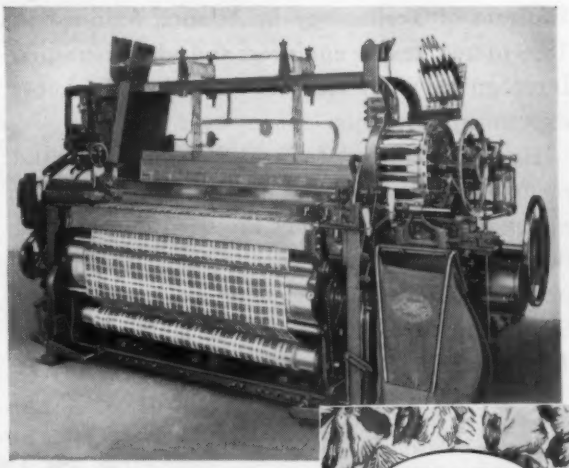
The more you have to sew . . . the less profit you have to show.

New C&K M-P Looms mean More Profit to any Mill!

. . . because they are the surest protection you can get against cloth defects. C&K's new line of Multi-Purpose Looms is built with many new features (*not* merely improvements on old features) that assure consistent top quality of cloth . . . as well as increased production and lower maintenance.

PLUS the vital, all-around protection of **M-P** Convertibility.

See C&K today . . . see how these **M-P** Looms give you More Protection than you can get with any other weaving machinery.



This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are **WOVEN** Fabrics.

Crompton & Knowles LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa.

Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

 For more information, write direct or use Reader-Service post card.

Experimental lab with the right atmosphere

The A. French Textile School at the Georgia Institute of Technology in Atlanta, founded in 1899 to train textile engineers and administrators, is recognized today as one of the nation's foremost experimental schools.

Here, the subject of air conditioning in textile manufacture is truly "academic". For here, new manufacturing techniques are tried out and old ones re-tested. To provide the exact atmosphere needed for student experiments, an Amco Central Station Air Conditioning System is in operation. This complete AMCO system is invaluable. It mixes fresh and recirculated air, in proper proportions; delivers it to the work area, neither too "wet" nor too "dry" . . . but always at the proper degree of moisture and temperature for work in progress.

Over the years, the name AMCO has stood for leadership and outstanding quality in the manufacture of air conditioning systems. There is an Amco System to fit every need. An Amco engineer will gladly discuss the merits of the various systems available to you. Or, write for free copy of "Air Conditioning for the Textile Industry".

AMCO

AIR CONDITIONING SYSTEMS since 1888

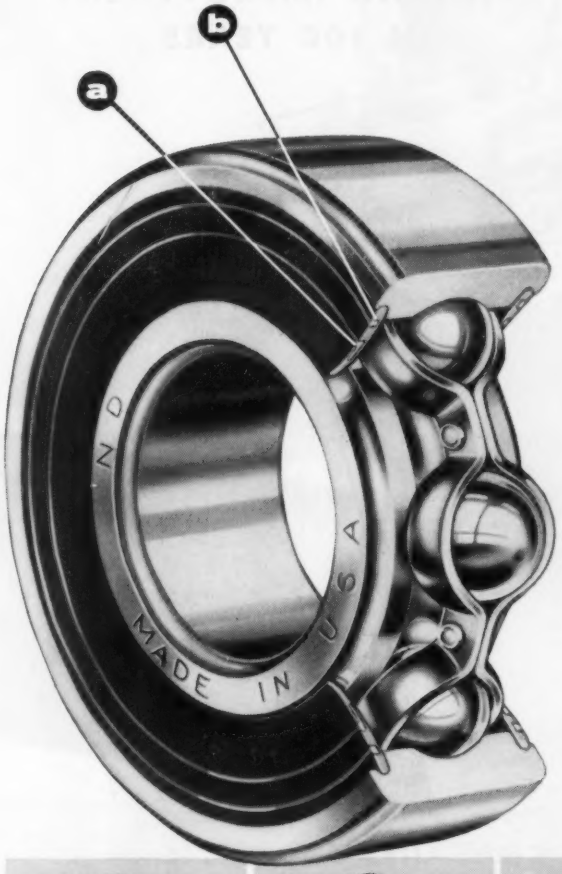
AMERICAN MOISTENING COMPANY, PROVIDENCE, R. I. • ATLANTA • BOSTON • CAMDEN • CHARLOTTE • AFFILIATED WITH GRINNELL COMPANY, INC.

FACTS

about

NEW DEPARTURE

BALL BEARINGS



New Sentri-Seal...on guard against dirt and wear!

The unique design of the Sentri-Seal gives optimum protection against dirt, and includes a number of other major advantages.

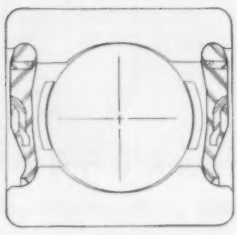
Sentri-Seals are quickly removed, easily replaced. As the seal is of synthetic rubber, in which two metal rings are embedded, a constant-rate spring is created between the rings. Inherent flexibility prevents distortion of the bearing outer ring due to seal insertion, permitting the use of bearings to the higher accuracy specifications. The spring action maintains an efficient sealing contact with the bearing ring to bar dirt and retain lubricant. Sentri-Seals are relatively inert to oils and greases and operate satisfactorily through a temperature range of −40°F to 225°F. Specifications available for still higher temperatures. In applications where relubrication is desired, it is easily accomplished by the injection method.

The New Departure Sentri-Seal basically consists of two separate metal rings, "A" and "B", embedded in synthetic rubber, resulting in a spring which absorbs distortion and deflection. The seal is not drastically influenced by axial displacement due to bearing end-play within prescribed tolerances, and provides efficient sealing at low torque. Bearing shown is equipped with two seals.

ONE SENTRI-SEAL | SEAL AND SHIELD | SEAL AND SNAP RING | TWO SEALS AND SNAP RING | SEAL, SHIELD AND SNAP RING

The diagram shows in section the New Departure Sentri-Seal. Lip contacting surfaces are form-ground simultaneously with the ball race, giving an extremely high degree of concentricity between sealing surfaces and the raceway.

Sentri-Seal is available for a range of sizes in single-row, standard-width bearings and also in two types of New Departure adapter bearings. Sizes, dimensions and capacities are listed in the latest New Departure catalog.



Write for full details on Sentri-Seal

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONN.

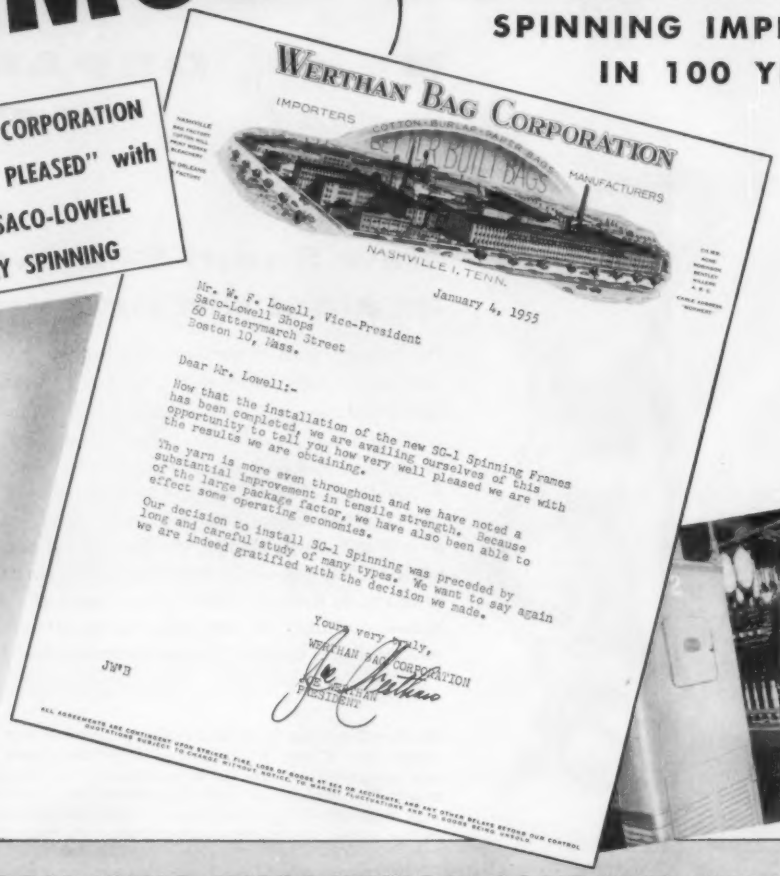
For more information, write direct or use Reader-Service post card.

NO. 3 OF A SERIES

FACTS NOT RUMORS *about* SACO-LOWELL GWALTNEY SPINNING

THE ONLY REVOLUTIONARY SPINNING IMPROVEMENT IN 100 YEARS

WERTHAN BAG CORPORATION is "VERY WELL PLEASED" with their New SACO-LOWELL GWALTNEY SPINNING



WERTHAN BAG CORPORATION

IMPORTERS — COTTON · BURLAP · PAPER BAGS — MANUFACTURERS

BUILT BAGS

NASHVILLE 1, TENN.

January 4, 1955

Mr. W. F. Lowell, Vice-President
Saco-Lowell Shops
60 Batterymarch Street
Boston 10, Mass.

Dear Mr. Lowell:-

Now that the installation of the new SC-1 Spinning Frames has been completed, we are availing ourselves of this opportunity to tell you how very well pleased we are with the results we are obtaining.

The yarn is more even throughout and we have noted a substantial improvement in tensile strength. Because of the large package factor, we have also been able to effect some operating economies.

Our decision to install SC-1 Spinning was preceded by long and careful study of many types. We want to say again we are indeed gratified with the decision we made.

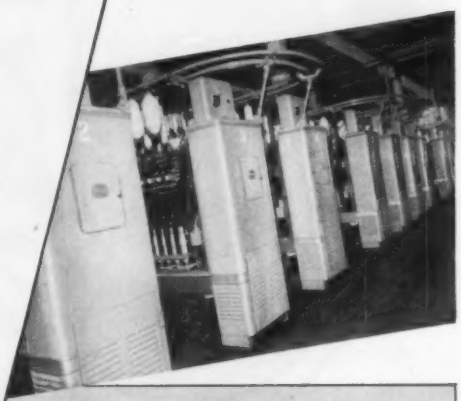
Yours very truly,

WERTHAN BAG CORPORATION

J. L. Werthan
PRESIDENT

JLW:B

ALL AGREEMENTS ARE CONTINGENT UPON STRIKES, FIRE, LOSS OF ROGUES, AT ECC OR ACCIDENTS, AND ANY OTHER DELAYS BEYOND OUR CONTROL. QUOTATIONS SUBJECT TO CHANGE WITHOUT NOTICE. TO MARKET FLUCTUATIONS DUE TO HIGHER BEING UNABLE



THIS OPERATING INFORMATION CONTAINS THE FACTS . . .

A TYPICAL WERTHAN SPINNING ROOM ORGANIZATION

WARP									FILLING								
Count	Twist Multiplier	Twist per Inch	Spindle Speed	Ring Size	Traveler Speed	Front Roll Speed	Efficiency %	Net Production per Spindle per Hour	Count	Twist Multiplier	Twist per Inch	Spindle Speed	Ring Size	Traveler Speed	Front Roll Speed	Efficiency %	Net Production per Spindle per Hour
12	4.30	14.88	8600	3.00	6754	184	94	.087	10	4.00	12.65	6000	3.00	4712	151	93.5	.088
16	4.75	19.00	9100	3.00	7147	152	95	.056	14.25	3.75	14.13	8600	3.00	6754	193	94	.079
20	4.75	21.24	9100	3.00	7147	136	95.2	.041	20	3.75	16.77	8600	3.00	6754	163	94.5	.048
24	4.75	23.27	9100	3.00	7147	124	95.4	.031	22	3.75	17.59	8600	3.00	6754	156	95	.042
26	4.75	24.22	9100	2.75	5109	120	95.6	.028	26	3.75	19.12	8600	2.75	6754	143	95	.033
30	4.75	26.02	9100	2.75	5109	111	97.0	.022	36	3.75	22.50	8600	2.75	6754	122	96	.021
									6.75 Part Waste	4.00	10.39	4600	3.00	3612	141	93	.121

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60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.

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Satisfaction rests on the carton

Johnson & Johnson sells the same quality that shippers look for in Union Corrugated Containers—protection. Union boxes are strong and dependable. They are where you want them, when you want them. Consider this definite evidence of Union superiority: More than half the major users of shipping containers who maintain their own package testing laboratories are satisfied Union customers.

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News about

B. F. Goodrich Chemical *raw materials*

new crease-resistant finishes give superior strength characteristics

HERE is a new way to make cellulosic fibers more resistant to crease, yet avoid undesirable side effects. Standard treatment with urea-formaldehyde resins —while it does its primary job well—results in weakened fabrics.

Modifying the U-F resins with Hycar latex makes a big difference. Tests show that cottons and rayon-acetate fabrics treated with U-F/Hycar have markedly better tear, breaking, and bursting strengths, compared with fabrics treated with U-F resins alone.

There are other important benefits: Abrasion resistance is increased, colorfastness of many dyes is improved. Fabric life is increased and yellowing reduced compared to straight U-F, because a U-F/Hycar blend retains less chlorine, both in treatment and in subsequent laundering.

Hycar latices offer many other benefits to textile manufacturers and finishers. For information that may help you upgrade a product or sharpen its sales appeal, please write Dept. CM-4, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

B. F. Goodrich Chemical Company
A Division of The B. F. Goodrich Company

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Reg. U.S. Pat. Off.
American Latex

GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

INGOLSTADT: SPINNING MACHINERY FOR COTTON-WORSTED-CUT RAYON MAK: CARD SETS · SELF-ACTING MULES · RING SPINNING FRAMES SCHLAFHORST: MACHINES FOR WINDING-WARPING AND SECTIONAL WARPING SUCKER: SIZING MACHINES · SIZE MIXING AND COOKING INSTALLATIONS THIES: DYEING AND BLEACHING PLANTS FOR YARNS AND CARD-SLIVERS OF ALL KIND ASTRA: WEAVING MACHINES FOR COTTON-, WOOL- AND SPECIAL FABRICS e. g. FELTCLOTHS · JACQUARD-WEAVING MACHINES KLEINEWEFERS: CALENDERS · MANGLES · PRINTING-, MERCERIZING-MACHINES · CONTINUOUS BLEACHING AND DYEING PLANTS MONFORTS: FINISHING MACHINERY · MEASURING, INSPECTING, PLAITING, ROLLING AND DOUBLING MACHINES FOR ALL KINDS OF CLOTH

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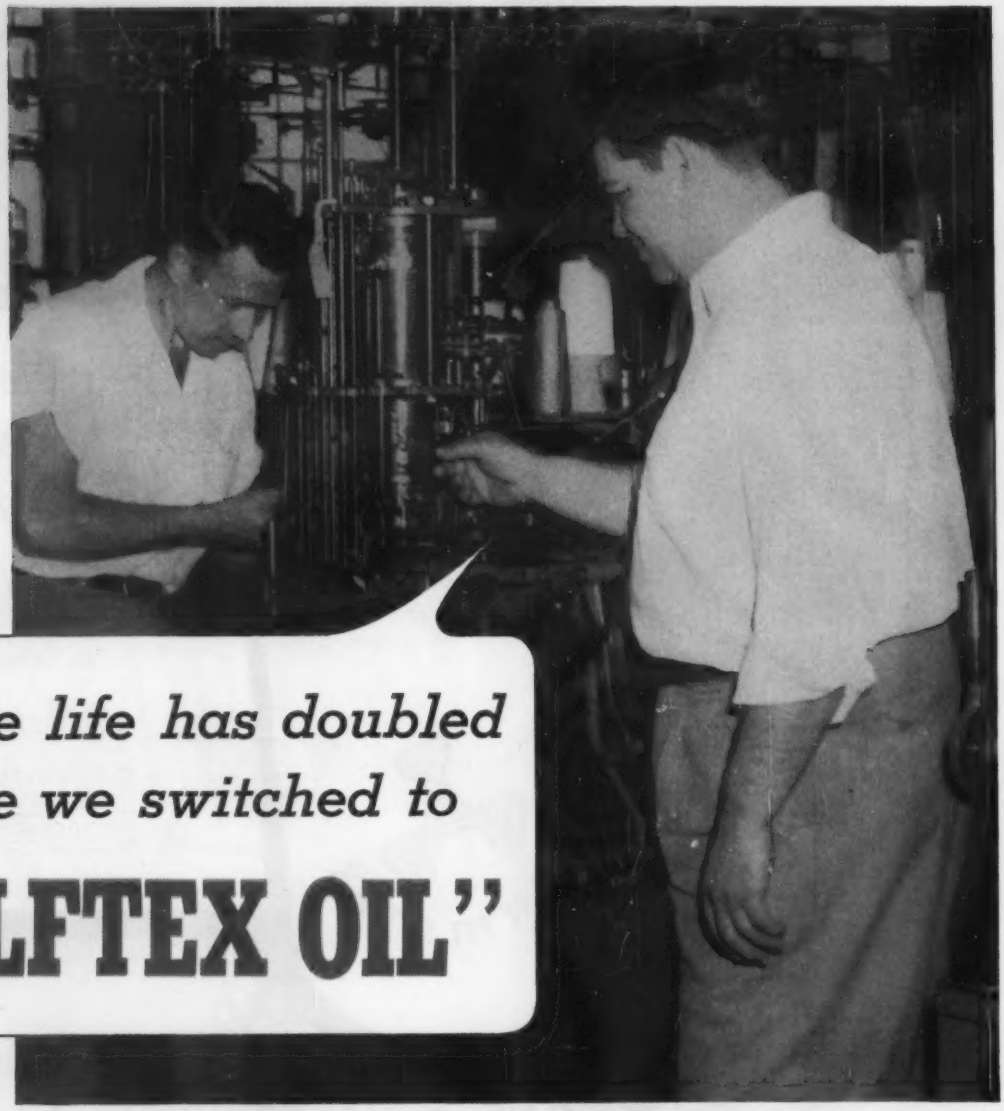


"Needle life has doubled since we switched to

GULFTEX OIL"

says Mr. Glenn Powers, Superintendent
Continental Hosiery Company, Henderson, North Carolina

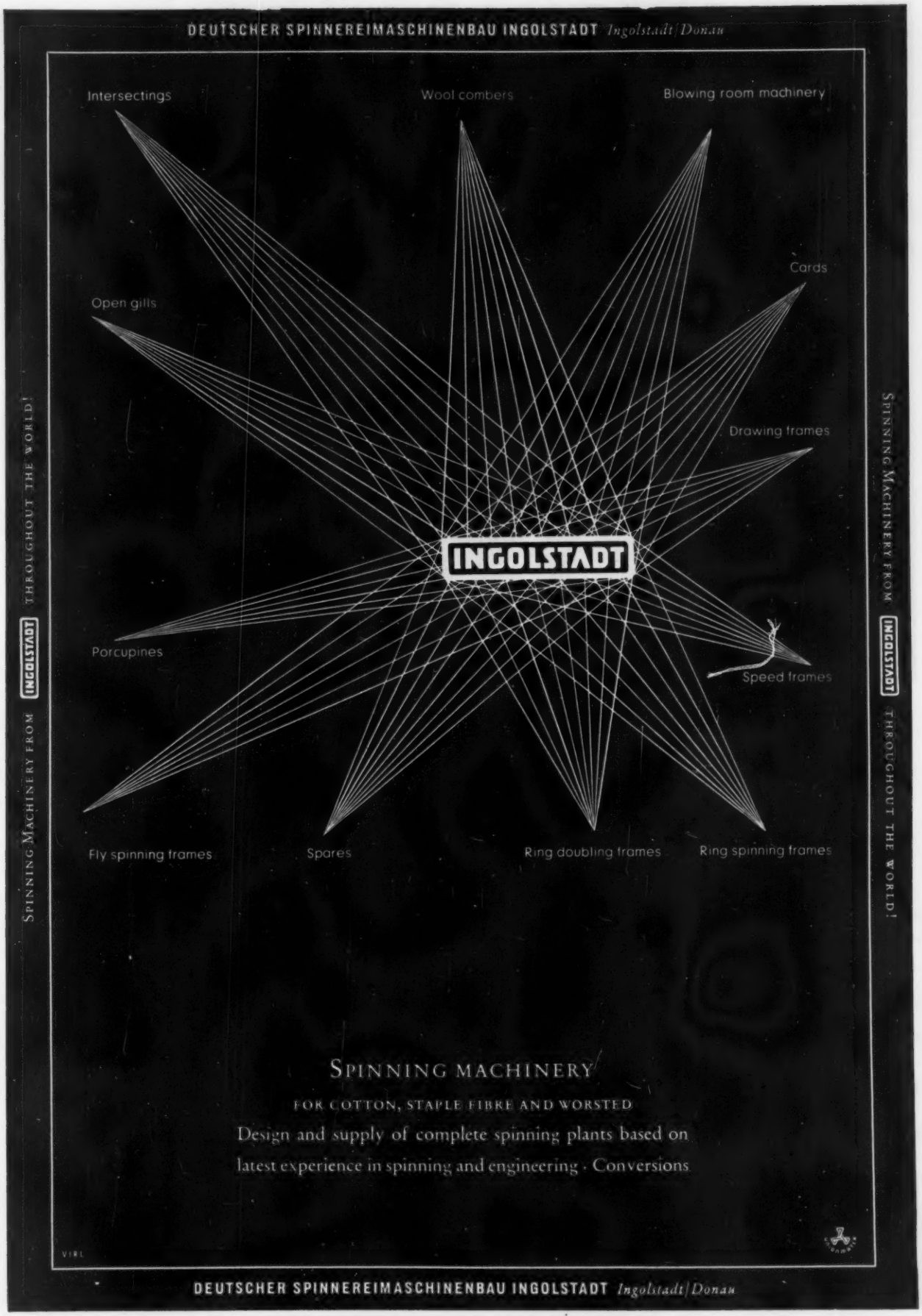
"Not only has needle life been doubled in our knitting machines since we switched to Gulftex Oil in 1953," says Mr. Powers, "but we have also eliminated rust through the use of this excellent oil. Latch needles are much cleaner, sliders are freer, and the machinery lubricated with Gulftex runs noticeably quieter and smoother."

In addition to its qualities which make such important benefits possible, Gulftex Oil has superior non-staining characteristics, so it's the ideal lubricant for any application where the staining of fabrics is a problem.

Call in a Gulf Sales Engineer today and have him demonstrate the advantages of Gulftex Oil in your mill. Consult your telephone directory for your local Gulf Office. Gulf Oil Corporation · Gulf Refining Company, 1822 Gulf Building, Pittsburgh 30, Pennsylvania.

THE FINEST PETROLEUM PRODUCTS FOR ALL YOUR NEEDS

GULF


DEUTSCHER SPINNEREIMASCHINENBAU INGOLSTADT Ingolstadt/Donau
Intersectings
Wool combers
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SPINNING MACHINERY
FOR COTTON, STAPLE FIBRE AND WORSTED
Design and supply of complete spinning plants based on
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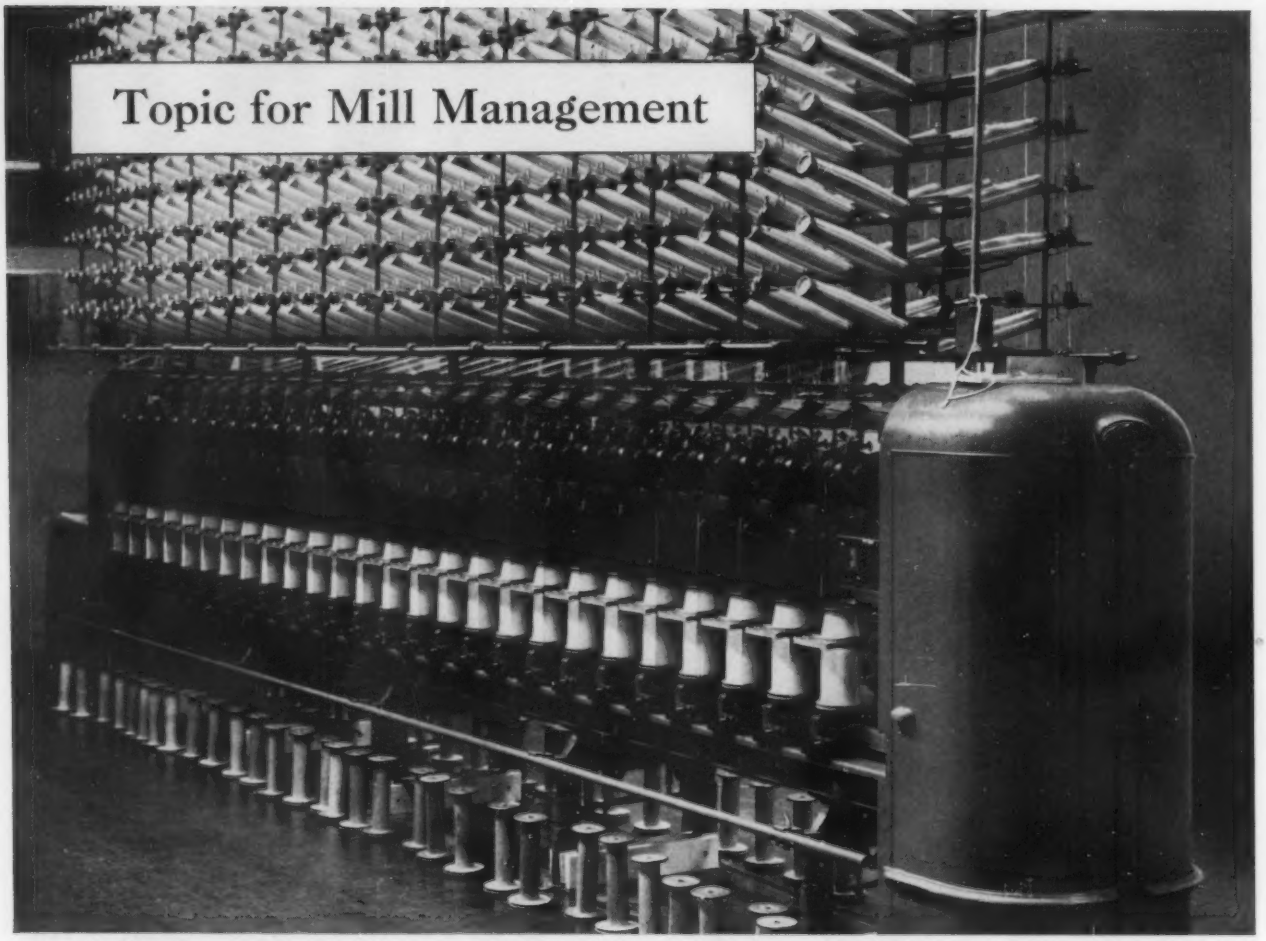


Is this it? Perhaps the very "competitive advantages" you are looking for are in this Model 10 Ring Twister by Universal. It is an advanced model for twisting all natural and synthetic yarns, spun or filament. It will give you higher production of better yarn at lower cost.

You pick your own "Pay as You Profit" Plan

Long-term lease or long-term purchase... modernization plus conservation... find out more

Your situation is what determines the Plan in the Leesona Double-Profit Service now ready for your discussion.

This Service is not a rabbit-out-of-the-hat answer to difficult operating problems . . . but a thorough, expert analysis of the factors that will help you operate more profitably.

Inquiry about the Leesona Double-Profit Service, including Profit Factor Studies does not obligate you in any way. We believe the booklet "Profit Two Ways" should be part of your current data on modern mill management. A copy is yours for the asking.

23.4.30

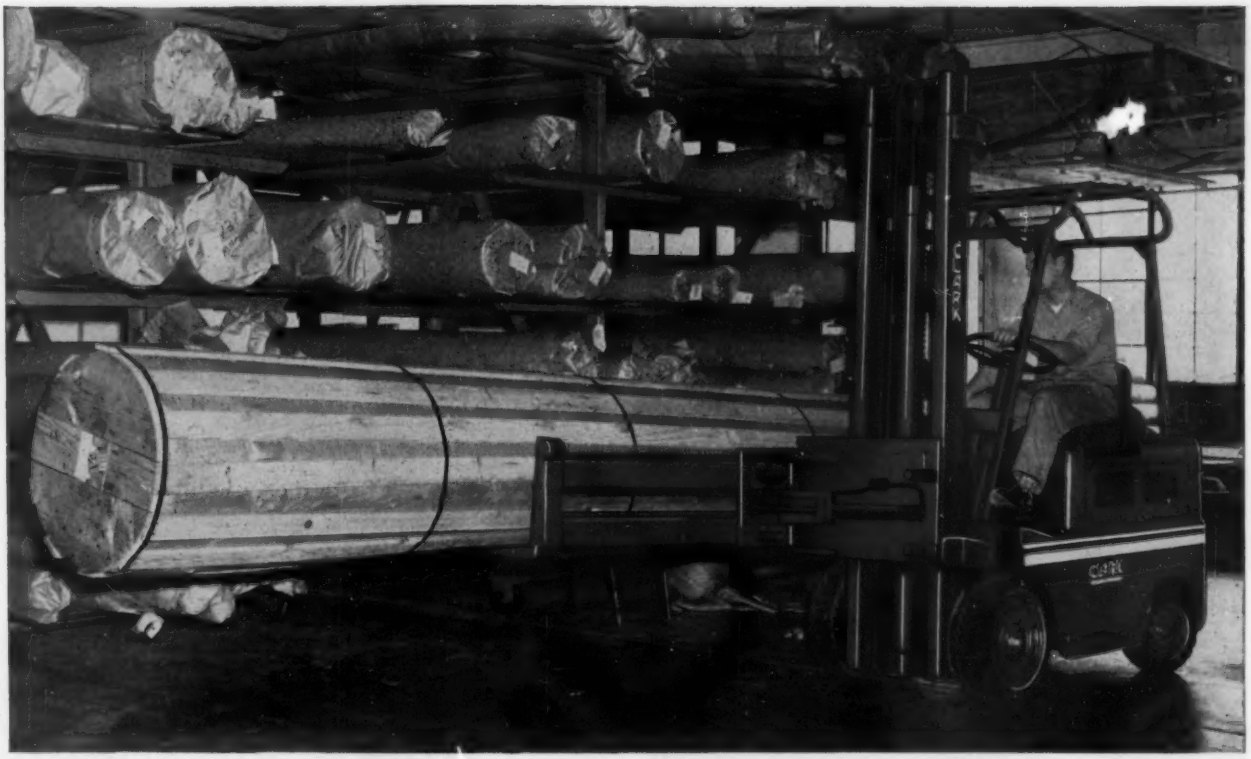
UNIVERSAL WINDING COMPANY

P. O. BOX 1605, PROVIDENCE 1, R. I.

Sales Offices: Boston • Philadelphia • Utica • Charlotte • Atlanta • Los Angeles

Winding and Twisting Machinery for Natural and Synthetic Yarns

For more information, write direct or use Reader-Service post card.



How to handle 18 foot loads in a 7 foot aisle

Here's an answer on how to handle over-sized loads in narrow aisles. Oregon Flax Textiles of Salem, Oregon found a solution (saved money, too) with a pivoted fork bar on a Clark Carloader. Here's How:

Finished carpeting, in rolls 18 ft. long and weighing as much as 1500 lbs., is lifted by the Clark truck and swings 90° into a horizontal position alongside the operator. With the roll to the side of his truck, the driver can easily negotiate the 7 ft. aisles.

The operation of the pivoted fork bar is completely hydraulic, and can quickly be adjusted to any angle within the 90° arc. On tight corners, the driver merely adjusts the load-swing for clearance with simple controls mounted under his right hand. Within the limits of truck capacity, over-sized material is no longer a problem.

Iron out *your* special handling problems, too. No job too big—too difficult for versatile Clark equipment. Get full details on this operation! Write for Clark Application History 16-D-22, or call your local Clark dealer, in the Yellow Pages under "Trucks, Industrial".

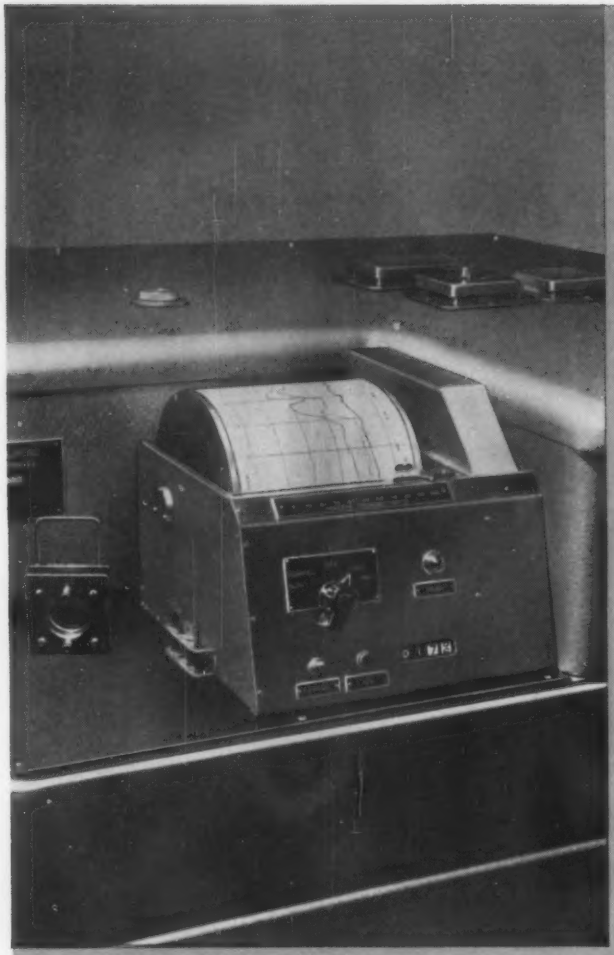
Unique way to store long rolls

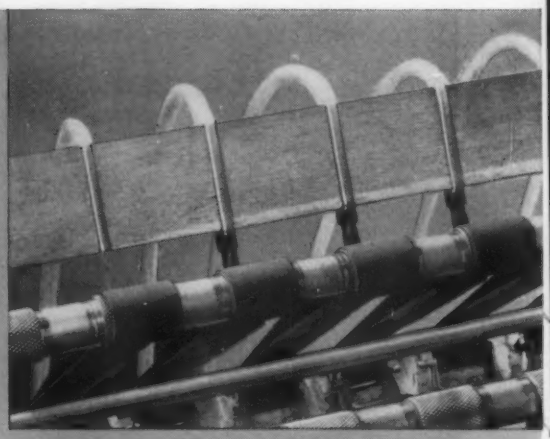
Racks are mounted on rollers and are easily pulled out so that fork truck can load or unload any specific roll or rolls. Easily accessible, high storage now possible.

Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 27, Michigan

CLARK EQUIPMENT

For more information, write direct or use Reader-Service post card.

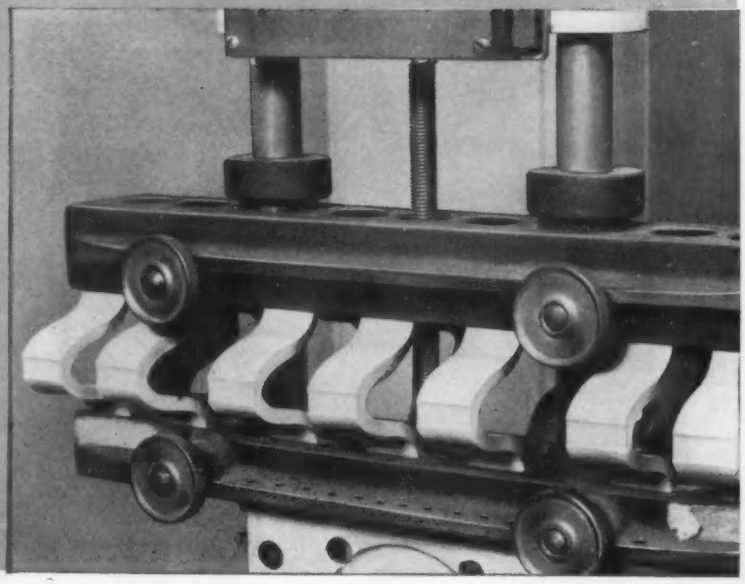




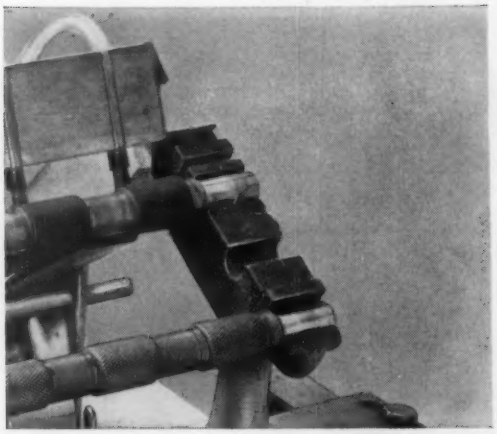
Tests like these

spin strong,

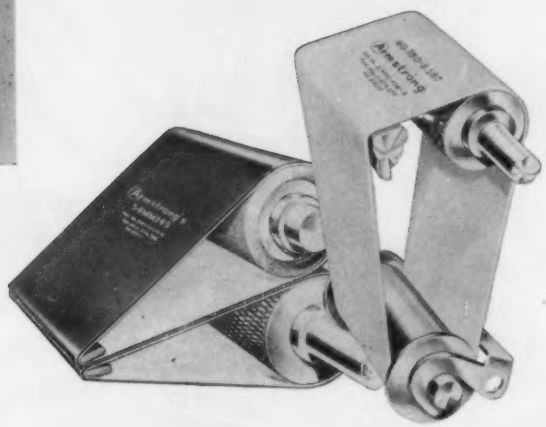
This infrared recording photo spectrometer is a laboratory "detective" used by Armstrong research men in the development and study of rubber compounds used in Accotex Aprons and other textile products. Using infrared light, the instrument analyzes and records the composition of rubber compounds under test.



Long Flex-Life is a **must** in Accotex Aprons. To test their ability to withstand flexing stress, apron compounds are checked on this device, which stretches and relaxes the apron compound hundreds of times a minute. Only compounds with best flex characteristics are released for production.



Increased production of ozone in mills can damage synthetic rubber aprons. To make sure Accotex Aprons have maximum resistance to ozone cracking, sample aprons are tested on this special frame. Air is forced over moving aprons to see which develop cracks, which do not.



insure Accotex Apron quality, help you

even yarn on high-draft frames

On today's high-draft equipment, Armstrong Accotex® Aprons can make an important difference in yarn quality. One big reason for this is the high quality of rubber compounds used in these aprons, and the care taken to design these compounds to meet the varying requirements of different systems. For example:

To meet double-apron spinning requirements, the Accotex NO-7075 Apron is made with different synthetic rubber compounds on its inner and outer surfaces. The compound on the outer surface is designed to drive the top apron without slipping and maintain good yarn control.

The Accotex NO-750 Apron is engineered to give the smooth drafting action so important on single-apron systems. To get this performance, a special, super-flexible, satin-smooth compound is required.

Each of the synthetic rubber compounds used in these aprons is checked and double checked **before** production. And every step in the making of these aprons—from mixing the rubber to final packaging—is guarded by a network of quality controls. The tests shown here are just a few of the methods used to make sure that Accotex Aprons always give top performance.

If you're using high-draft equipment, get your Armstrong man to set up a test frame of Accotex Aprons. Then you'll *see* what so many mills have proved by experience: that these aprons run better, wear longer, improve yarn quality.

Send for the booklet, "Armstrong Textile Roll Coverings and Mill Supplies." Write Armstrong Cork Company, Industrial Division, 6408 Dauphin Street, Lancaster, Pennsylvania.

Armstrong ACCOTEX APRONS

. . . used wherever performance counts

 For more information, write direct or use Reader-Service post card.

with a see-thru package by Shellmar-Betner

Any textile product looks its Sunday best in a Shellmar-Betner see-thru* package. It's never shopworn, even after repeated handling by customers. And both retailers and shoppers appreciate this packaging for its fresh, crisp, colorful look.

This pajama package is only one example of hundreds of different packages that Shellmar-Betner craftsmen make especially for the textile industry. If you're interested in better flexible packaging for your product, call Shellmar-Betner today.

*Remember!
we convert
Shellene (Polyethylene), Cellophane, Saran, Acetate, Pilofilm, Mylar, Vinyl. Laminations — combining all types of Flexible Packaging Materials. Shell-Pli — Shell-Glo

Our Fiftieth Year of Tailor-Made Packaging

CONTINENTAL CAN COMPANY

SHELLMAR-BETNER
Flexible Packaging Division
MT. VERNON, OHIO
Sales Offices in Principal Cities

For more information, write direct or use Reader-Service post card.

Mill installation of Whitin Pacemaker Twisters

WHITIN Pacemaker TWISTERS

...they lead the field in Production, Performance and Quality

Whitin Pacemaker Twisters have established unsurpassed performance records for their high production, quality of yarn, minimum maintenance and operating costs. For cotton and spun synthetic yarns, they are available in 3″- 6″ gauge, with traverses up to 9″, 2½″- 4½″ rings. Their notable features are:

- **Front bottom roll arrangement to provide a yarn path that is in almost vertical line from bottom of front roll to the guide.**
- **Laminated bakelite gears meshing with metal gears in the head end, for noise reduction and long wear.**
- **Spring counterbalanced ring rail.**
- **Spring weighted anti-friction tape tension pulleys.**

Also available

- **Steel pulleys on continuous drive shaft for spindle drive.**
- **Slotted ring rails for full length stationary separator blades.**
- **Stationary guide rod behind spindles for supporting ring rail traversing mechanism which prevents contamination of yarn when ends are down.**
- **Ball bearing or roller bearing spindles.**

Write today for our folder giving detailed information

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

New *Pneumafil* Collector Uses Specially Designed Allis-Chalmers Motor

The recently developed *Pneumafil* "Economizer" Collector System means a further improvement in spinning room conditions.

An important new feature is the provision for discharging the air around a 360-degree periphery of the discharge cover. Air is gently released in all directions through 224 specially designed vents. There are no disturbing drafts.

SPECIAL MOTOR

An important component is the special Allis-Chalmers motor. Engineers of both Pneumafil Corporation and Allis-Chalmers Mfg. Co. combined their experience in this design.

Note that the smoothly curving front end forms the inner wall of the venturi air channel, funneling the air into the fan. The smooth, unobstructed air flow in this design provides adequate cooling. Exposed punchings of stator core also assist in heat dissipation. Heavy duty, size 304 sealed bearings are used to cut maintenance.

SERVICE EVERYWHERE

Users of the new *Pneumafil* "Economizer" System are assured prompt, dependable service on these Allis-Chalmers motors. Certified Service Shops in all major textile areas provide factory-approved methods and parts. Allis-Chalmers, Milwaukee 1, Wisconsin. A-4762

Other Allis-Chalmers Textile Drives

● **SPINNING**

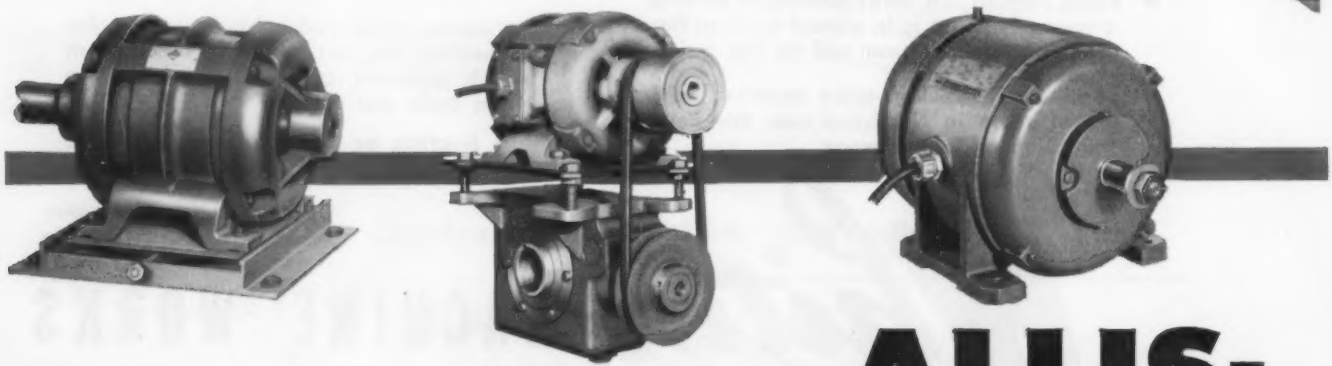
Wide-open air passages and powerful fans of *Quick-Clean* design sweep dirt and lint right through and out of these motors. Sealed, double-width bearings are used.

● **CARD DRIVE**

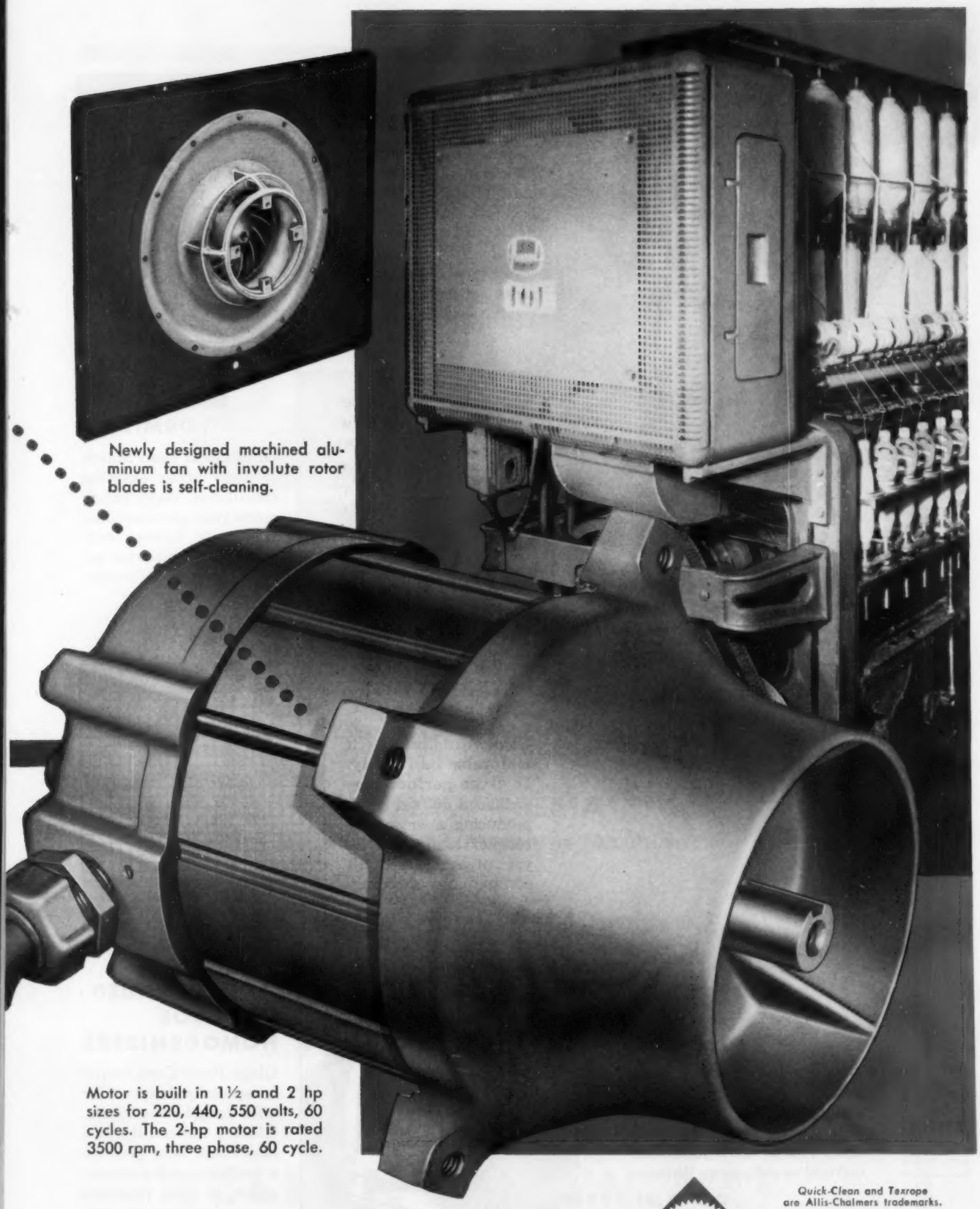
Allis-Chalmers combines a *Quick-Clean* motor, *Texrope* drive and an efficient gear reducer to make a compact, reasonably priced power-package for carding machines.

● **WEAVING**

Allis-Chalmers loom motor has oversize rotor, stator and bearings. Rotor diameter provides maximum inherent flywheel effect; slip produces minimum speed variation. External flywheel can be furnished.



ALLIS-



Newly designed machined aluminum fan with involute rotor blades is self-cleaning.

Motor is built in 1½ and 2 hp sizes for 220, 440, 550 volts, 60 cycles. The 2-hp motor is rated 3500 rpm, three phase, 60 cycle.

Quick-Clean and *Texrope* are Allis-Chalmers trademarks.

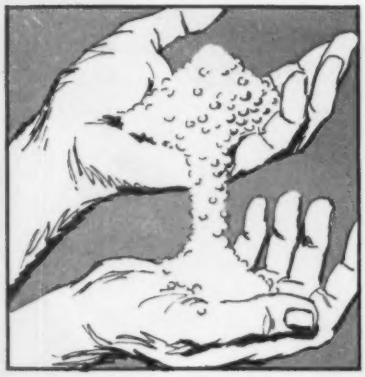
CHALMERS

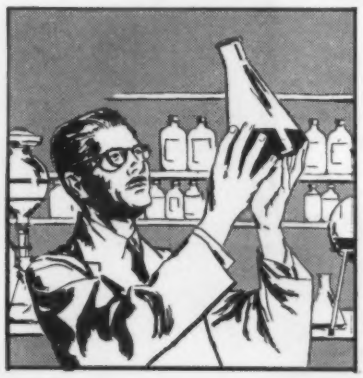
A-C ALLIS-CHALMERS

GLOBE®
is the preferred pearl corn starch because.....

GREATER CLEANLINESS

Modern methods, automatic controls and careful handling make Globe Brand Pearl Corn Starch the cleanest pearl starch available! Globe is always available in quantities to meet your specific needs.



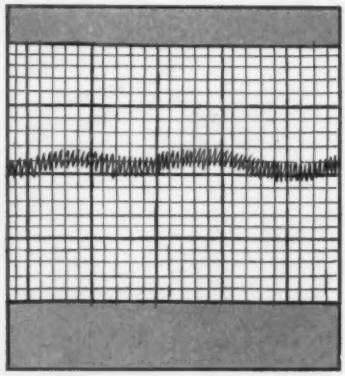


GREATER UNIFORMITY

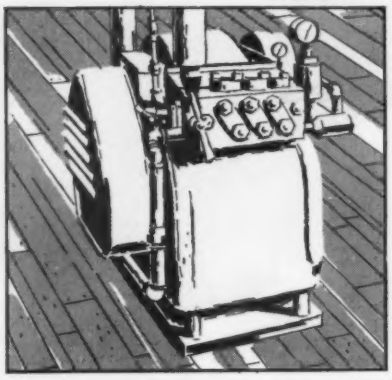
Globe Pearl Corn Starch is made under exacting conditions. Each batch meets your specifications. Accurate laboratory checks give you extra assurance of this uniformity.

STABILITY OF VISCOSITY

Globe Pearl Corn Starch maintains its fluidity. It gives perfect performance in size box, producing a smoother, tougher size; giving a yarn of greater strength and reduced shedding.



- Corn Products Refining Company's laboratories are especially equipped to help you with specific production problems. This service is yours without cost or obligation. Write us.

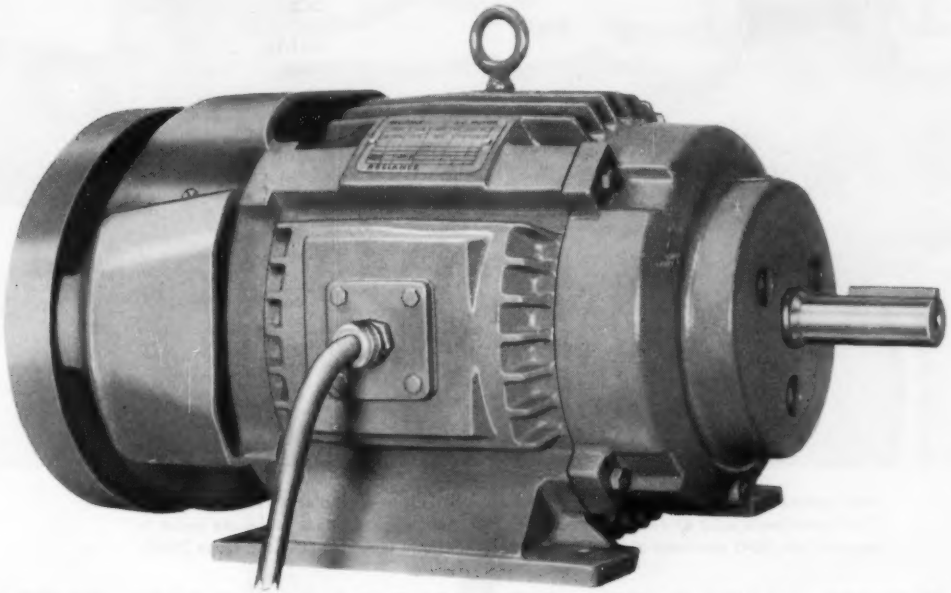


RECOMMENDED FOR HOMOGENIZERS

Globe Pearl Corn Starch is especially designed for mills using homogenizers. Globe's uniformity and cleanliness help produce a uniform end-product which, in turn, produces a smoother, tougher size.

Corn Products Refining Company · 17 Battery Place, New York 4, N. Y.

lint-free



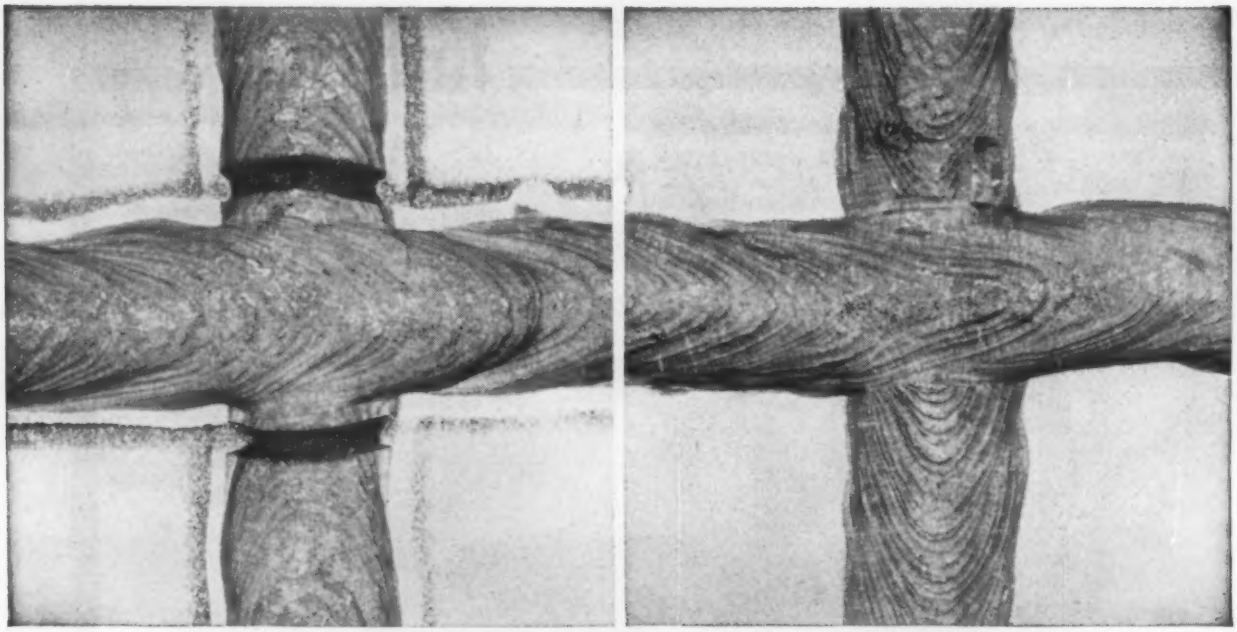
THE *RIGHT* TEXTILE MOTOR

- **Requires NO Cleaning**
- **Compact NEW NEMA Frames**
  Can Be Mounted Under the Machine
- **TOTALLY Protected**
  Long Trouble-free Service
- **Reduces Fire Hazard** B-1501

RELIANCE ELECTRIC AND ENGINEERING CO.

Cleveland 10, Ohio • Offices in Principal Cities

air-cooled



Two welded samples were tested for three 4-hour periods in a solution of 10% nitric and 3% hydrofluoric acid at 176 F. Specimen at left showing acid attack alongside welds is regular Type 304; specimen at right, free from acid attack, is Armco 18-8 ELC (Type 304L).

PROTECT WELDED STAINLESS EQUIPMENT AT LESS COST WITH ARMCO ELC

You needn't take chances on carbide precipitation adjacent to welds in textile equipment. Armco offers two extra-low carbon (ELC) stainless steel grades that are completely satisfactory for service in welded equipment up to 800 F. They are:

ARMCO 18-8 ELC (TYPE 304L)
ARMCO 18-12 MO ELC (TYPE 316L)

THEY SAVE YOU MONEY

Armco 18-8 ELC costs less than the columbium- or titanium-stabilized Types 347 and 321, yet insures the same freedom from intergranular corrosion in the recommended temperature range as the more expensive types. The Armco ELC types are produced in sheets, strip, plates, bars and wire.

"EXTRA-LOW-CARBON" DOES IT

Armco ELC grades contain a *maximum of only 0.03% carbon.* This small amount of carbon is not enough to cause harmful carbide precipitation adjacent to welds during welding. Therefore, stabilizing elements are not needed, for either shop- or field-welding.

GET COMPLETE INFORMATION

Let us send you a copy of the article, "How to Control Carbide Precipitation in Welding Stainless Steels." This is the latest and one of the most concise articles ever written on the subject. For more information on the ELC grades, get the booklet, "Armco's ELC Stainless Steels." Just check what you want on the coupon and mail it to us.

ARMCO STEEL CORPORATION
4604 Curtis Street, Middletown, Ohio

☐ Send me a copy of the article, "How to Control Carbide Precipitation in Welding Stainless Steels"
☐ Send me a copy of the booklet, "Armco's ELC Stainless Steels"

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ARMCO STEEL CORPORATION

4604 CURTIS STREET, MIDDLETOWN, OHIO

ARMCO®

SHEFFIELD STEEL • ARMCO DRAINAGE & METAL PRODUCTS, INC. • THE ARMCO INTERNATIONAL CORPORATION

for all 'round fastness...

"do 'em up brown" with

National® Chromolan Brown R

National Chromolan Brown R, like most National Chromolan Dyes, is especially recommended for dyeing unneutralized carbonized wools and for level dyeing chlorinated woolens. Applied from a strongly acid bath, it produces chocolate brown shades having very good to excellent fastness to light, all types of domestic washing and mill processing operations.

For dyes of this class, National Chromolan Brown R has better than average all-around fastness and is particularly valuable for coloring carpet yarn, knitting yarn and better grades of dress goods.

Bulletin No. 424 gives complete fastness properties and application method. Our nearest office will gladly send you a copy and to supply working samples and prices on National Chromolan Brown R.

NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
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Boston Providence Philadelphia Chicago San Francisco
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Allied Chemical

MaK

MaK

SPINNING MACHINES

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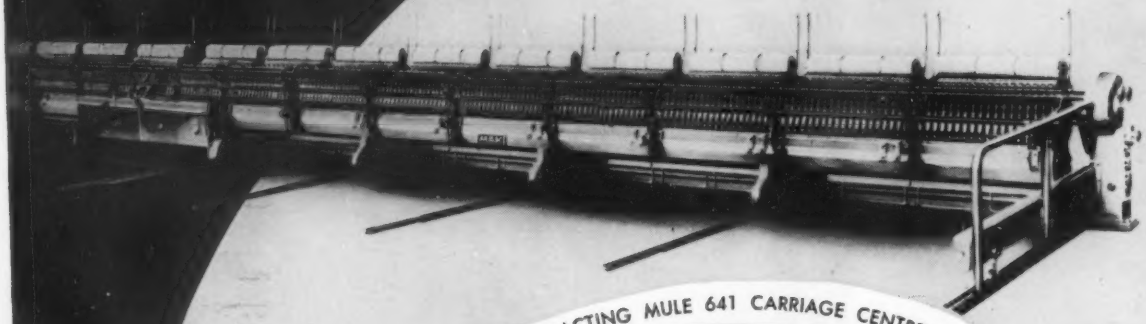
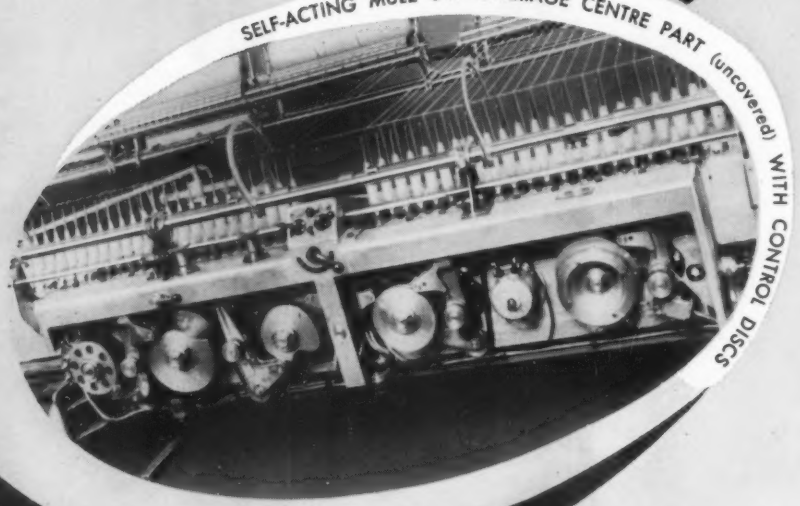
Carding Sets
Self-Acting Mules
Ring Spinning
Frames

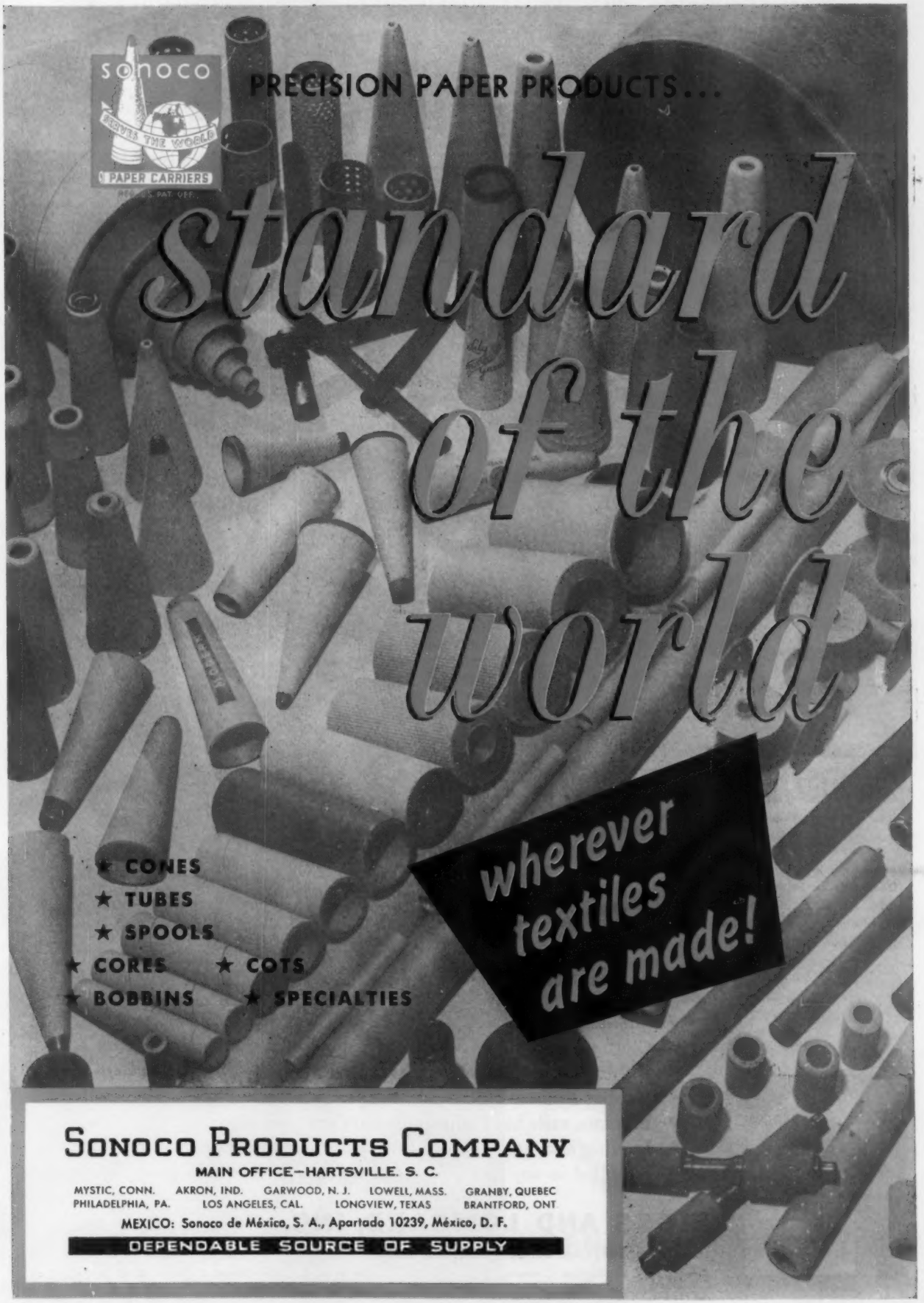




SELF-ACTING MULE 641 CARRIAGE CENTRE PART (uncovered) WITH CONTROL DISCS

MASCHINENBAU KIEL AKTIENGESELLSCHAFT

KIEL-FRIEDRICHSORT, GERMANY


sonoco
ROUND THE WORLD
PAPER CARRIERS
PRECISION PAPER PRODUCTS...
standard of the world
wherever textiles are made!
★ CONES
★ TUBES
★ SPOOLS
★ CORES ★ COTS
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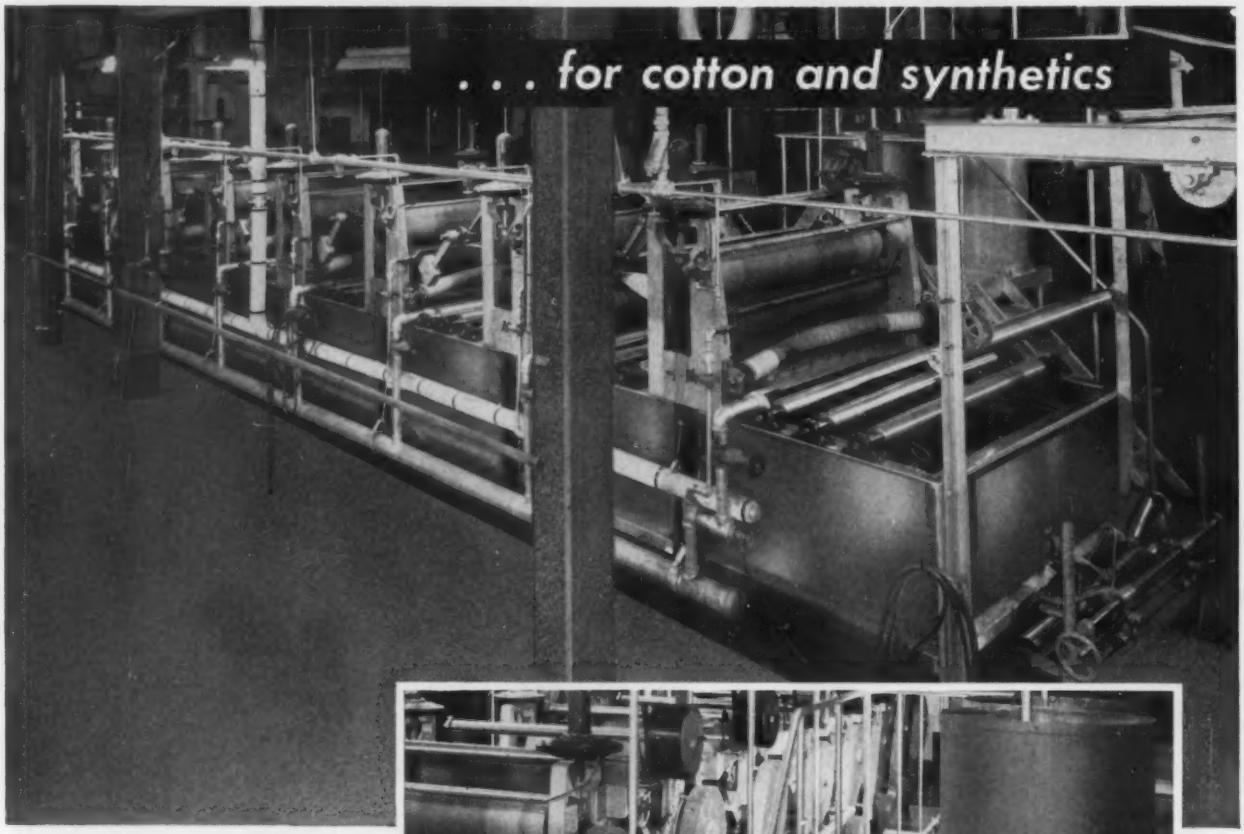
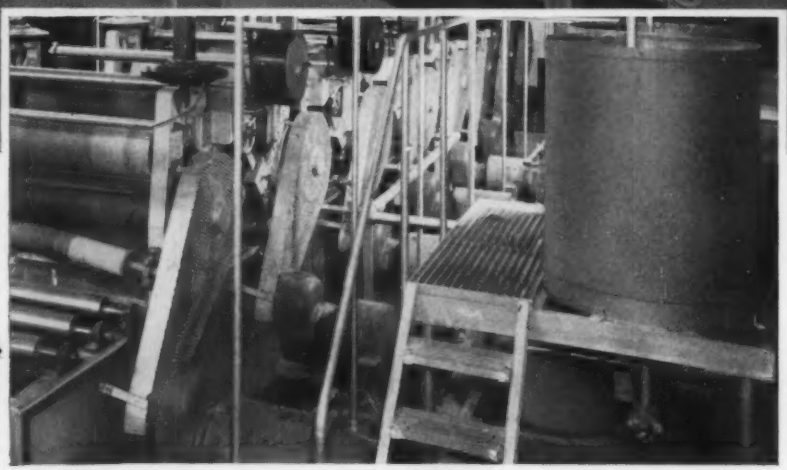
DEPENDABLE SOURCE OF SUPPLY

The Fleet Line

OPEN WIDTH WASHER



Installation of an Open Width Washer at Greenwich Printing and Dyeing Company, Inc., East Greenwich, Rhode Island.



Drive Side of Machine. Note individual drive for each bowl for variable cloth speed and synchronization from one bowl to another.

- Stainless steel self-supporting construction throughout
- Cloth speed synchronized from one bowl to another
- DC drive with infinite variable speed
- Rubber squeeze rolls with nip pressure pneumatically controlled
- Entrance rails have adjustable bars and guides
- Leaving end can be unloading doffers or folders or roll-up stands
- Supplied in any face width and number of bowls to meet requirements

RIGGS AND LOMBARD, INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

Agents: Paul A. Merriam Company, P. O. Box 86, Providence, R. I. • Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill. • Larry T. Nelson, Portland, Ore. • F. W. Warrington Co., 611 Johnston Bldg., Charlotte, N. C. A. Harold Zayotti, Jr., P. O. Box 125, Riverton, N. J. • H. E. Mott Co., Limited, Brantford, Ontario, Canada

For more information, write direct or use Reader-Service post card.

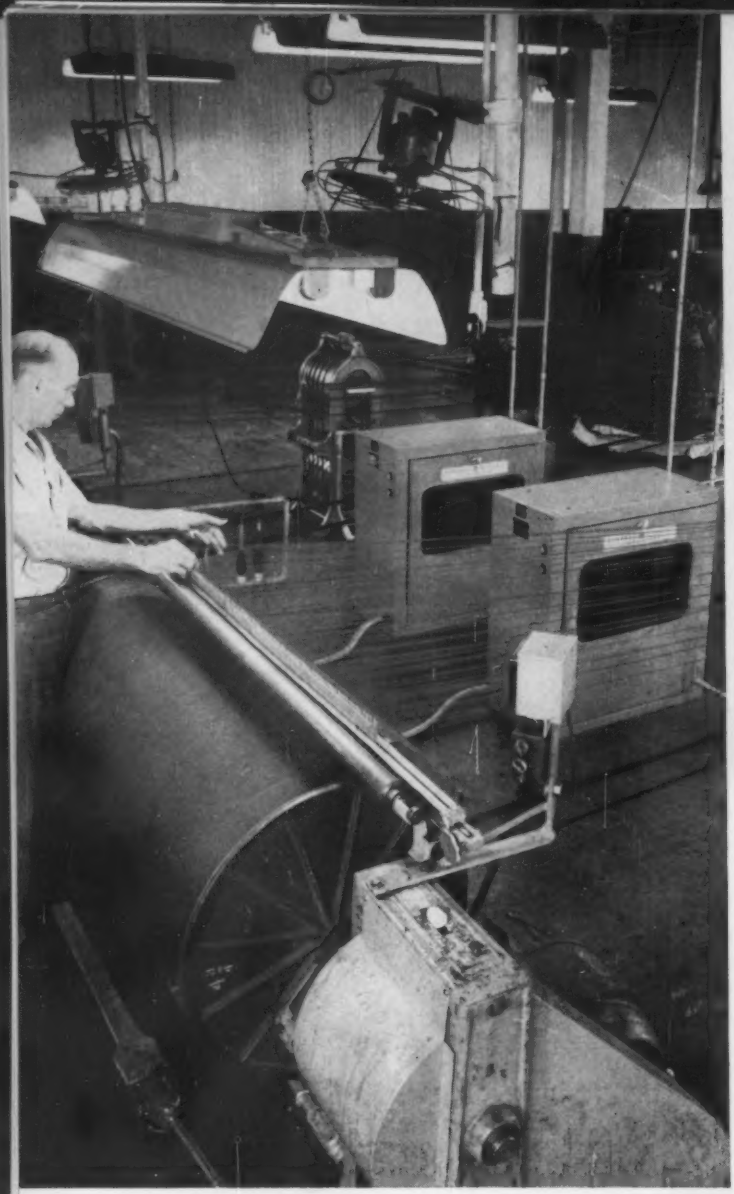
ENGINEERING
REPORTS:

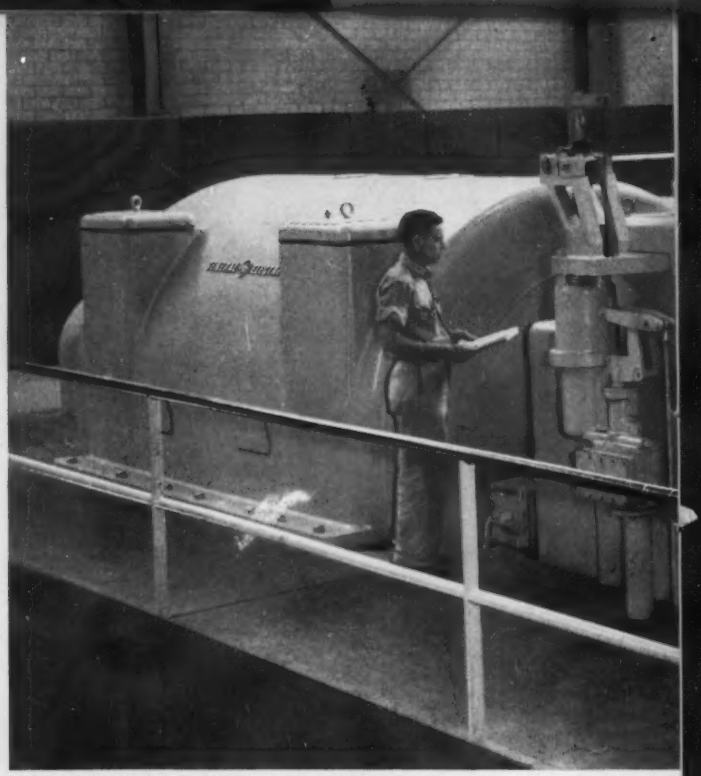
G-E engineering services simplify textile-mill modernization

General Electric engineering specialists will help you modernize your plant. These specialists make sure that you get not only the right electrical equipment but also a planned modernization program. They can speed your purchasing . . . plan deliveries . . . combine latest products and techniques into efficient electrical systems . . . even develop new equipment, if necessary, to meet your special problems. That's why G-E engineering help in electrical modernization is your best equipment investment protection.

TURN PAGE FOR MORE

GENERAL ELECTRIC

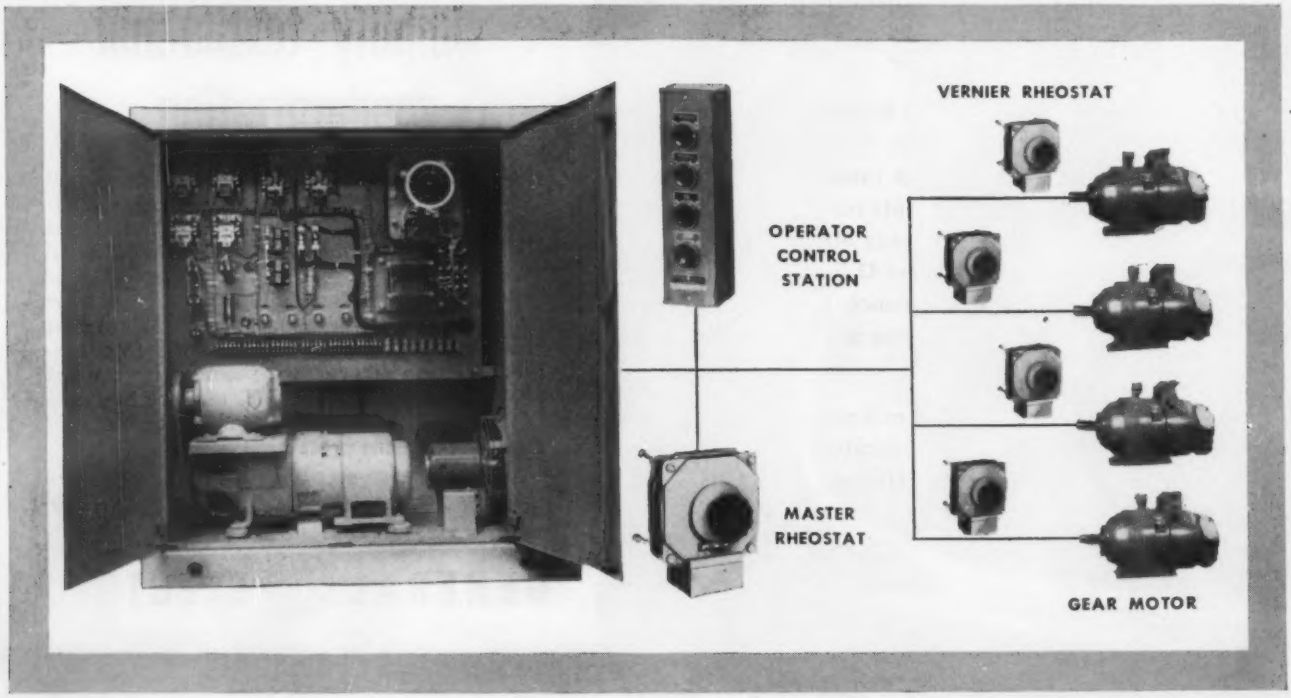




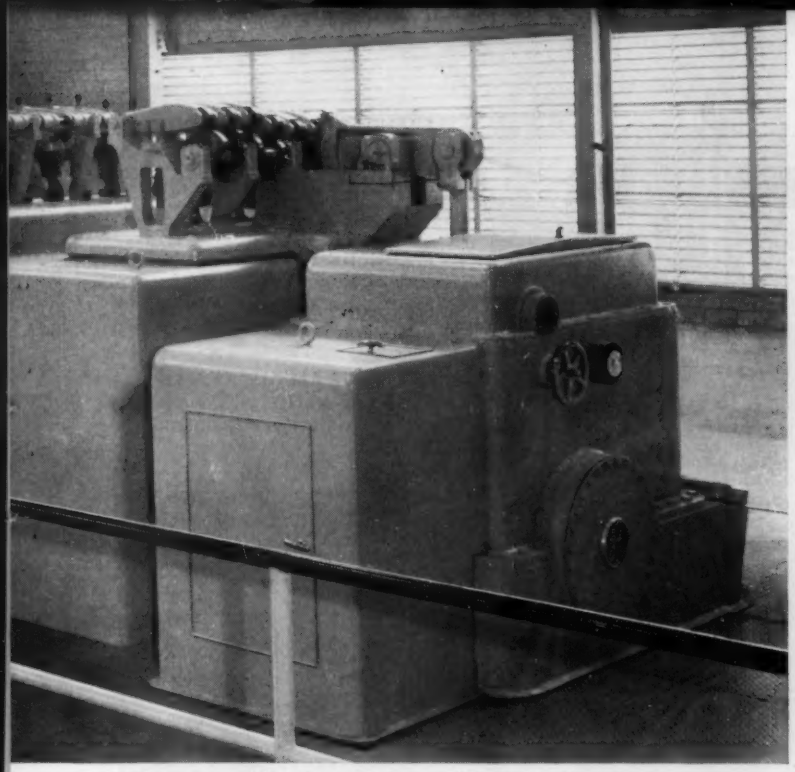
ECONOMICAL POWER GENERATION is possible with G-E steam turbine-generators. Electricity becomes a by-product

Flexibility of G-E helps textile mills

G-E SPEED VARIATOR provides integrated adjustable-speed drives from a-c power. Specialized forms drive finishing ranges, slashers, warpers, printing machines, etc.



SPEED VARIATOR power unit, operator's control station, rheostat, drive units can be installed almost anywhere to fit plant layout.



of the steam which is used for various process purposes. Many mills find it pays to use this economical prime mover.

drives and power systems increase production

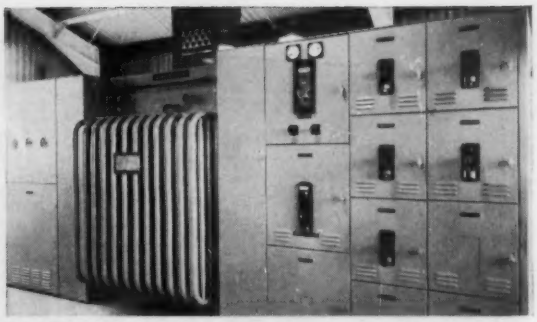
CHANGING MARKET CONDITIONS demand that textile mills produce a wider variety of fabrics faster and more efficiently. With General Electric's help, many mills are modernizing electrically to improve their quality control and to compete more effectively in today's market.

WHEN YOU MODERNIZE with G-E electrical equipment, you benefit many ways. For example, G-E power-system equipment is factory-assembled to cut installation time and cost. This equipment saves space, adapts readily into your existing systems and can be expanded easily and at low cost because of its "building-unit" design. And G-E drives are engineered to last longer, with less maintenance, in textile-mill service. These are important considerations in your plant modernization program.

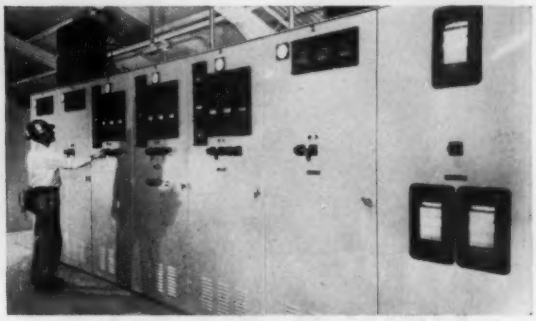
FOR ELECTRICAL HELP on your mill-modernization program, be sure to contact your G-E Apparatus Sales representative early in the planning stage. General Electric Company, Schenectady 5, N. Y. 654-36

Engineered Electrical Systems for Textile Mills

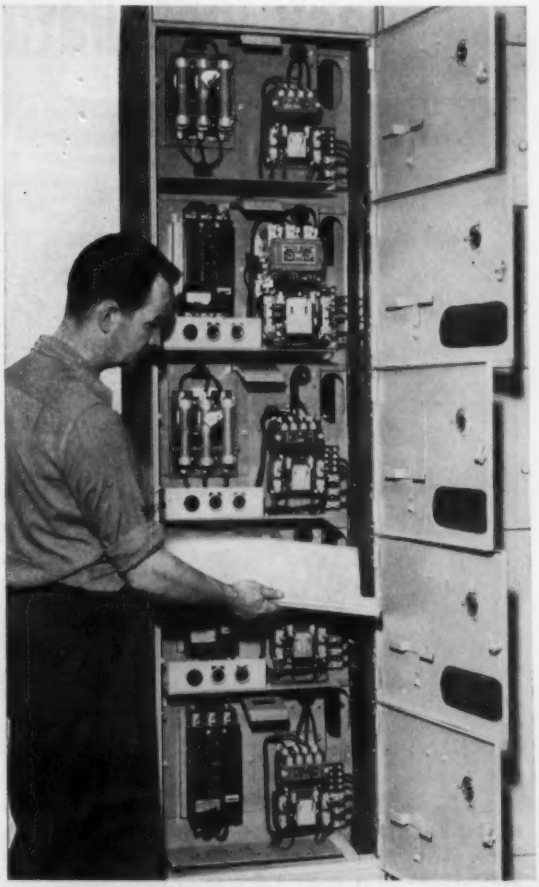
GENERAL ELECTRIC



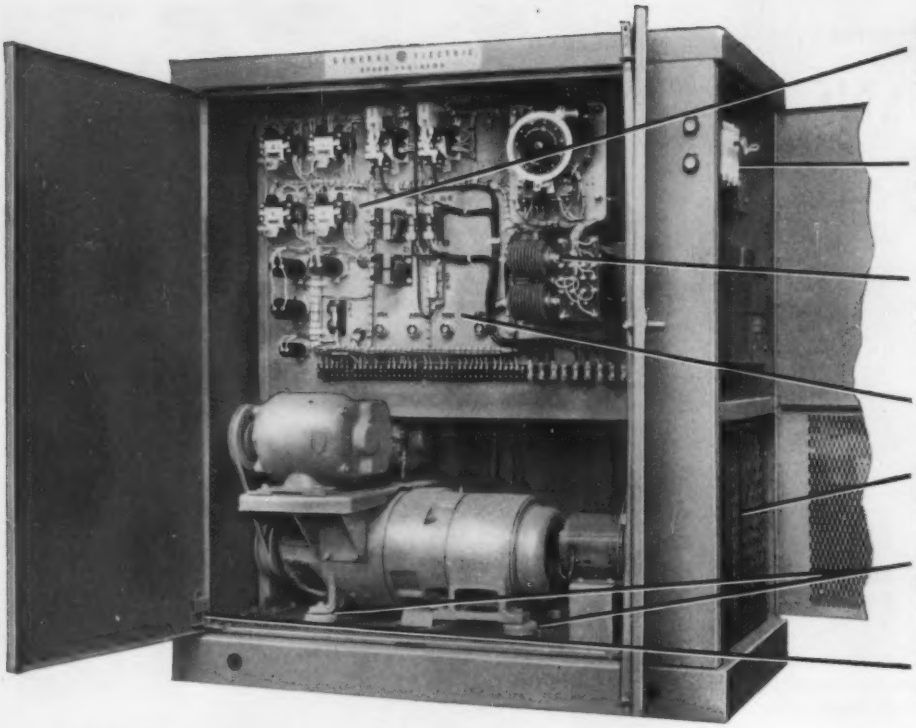
EASILY INSTALLED G-E load-center unit substations bring power close to the load for economical distribution. Co-ordinated units with modern air circuit breakers give maximum reliability, feeder protection.



BETTER PROTECTION AND CONTROL of incoming lines and feeders, motors, generators, are provided with G-E metal-clad switchgear. Magne-blast air circuit breakers assure highly dependable operation.



PRE-ENGINEERED G-E motor control center is factory-wired and assembled, easy to install and service. Interchangeable units are versatile, mechanically strong.



STANDARD CONTROL COMPONENTS are front-connected. Replacements readily available whenever needed.

MAGNETIC STARTING CONTROL and all a-c components protected in separate compartment.

COMPACT AMPLISTAT, easily replaced stock item with no moving parts, requires no maintenance.

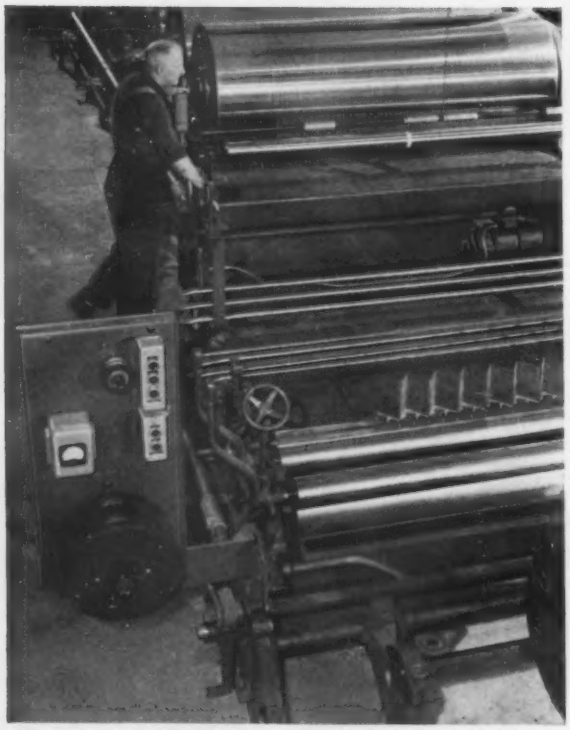
ALL DEVICES IDENTIFIED for quick recognition, easy servicing.

PRESSURIZING FAN AND AIR FILTER keep unit free from lint and dirt. Filters easily replaced.

VIBRATION DAMPERS supporting m-g set minimize vibration and reduce noise level.

HINGED, REMOVABLE DOORS for quick, easy accessibility.

NEW G-E packaged slasher drive gives you easy installation . . . less maintenance



NEW G-E SLASHER DRIVE maintains tension automatically, keeps elasticity uniform. On panel are speed and tension control rheostats, tension indicator, push-button station.

Winds up to 20% more yarn on the beam

LESS MAINTENANCE—Now, General Electric's slasher drive incorporates the amplistat, a static magnetic amplifier. With no moving parts, maintenance is cut to a minimum. To reduce downtime further, the positive-pressurized cabinet and inexpensive glass fiber filters help keep lint and dirt from power unit. Protected within case, all components are easily reached through hinged doors.

EASY TO INSTALL—Power unit comes assembled, wired and tested, and requires no special foundation. Just set unit in reasonably level position and run in conduit.

BETTER PERFORMANCE—By setting a simple dial, stepless adjustment of beaming tension can be made over a wide range to suit yarn sizes and number of ends. The G-E amplistat maintains settings automatically—makes possible up to 20% more uniformly hard-packed yarn on the beam.

Included in General Electric's new packaged slasher drive are: (1) compact, factory-assembled power unit, (2) adjustable-speed d-c drive motors and (3) operator's controls which can be mounted in most convenient locations.

FOR MORE INFORMATION—Contact your G-E Apparatus Sales Office. A specialist will show you how to get the best from your slasher operation. Direct Current Motor and Generator Department, General Electric Co., Erie, Pa.

815-5

GENERAL ELECTRIC

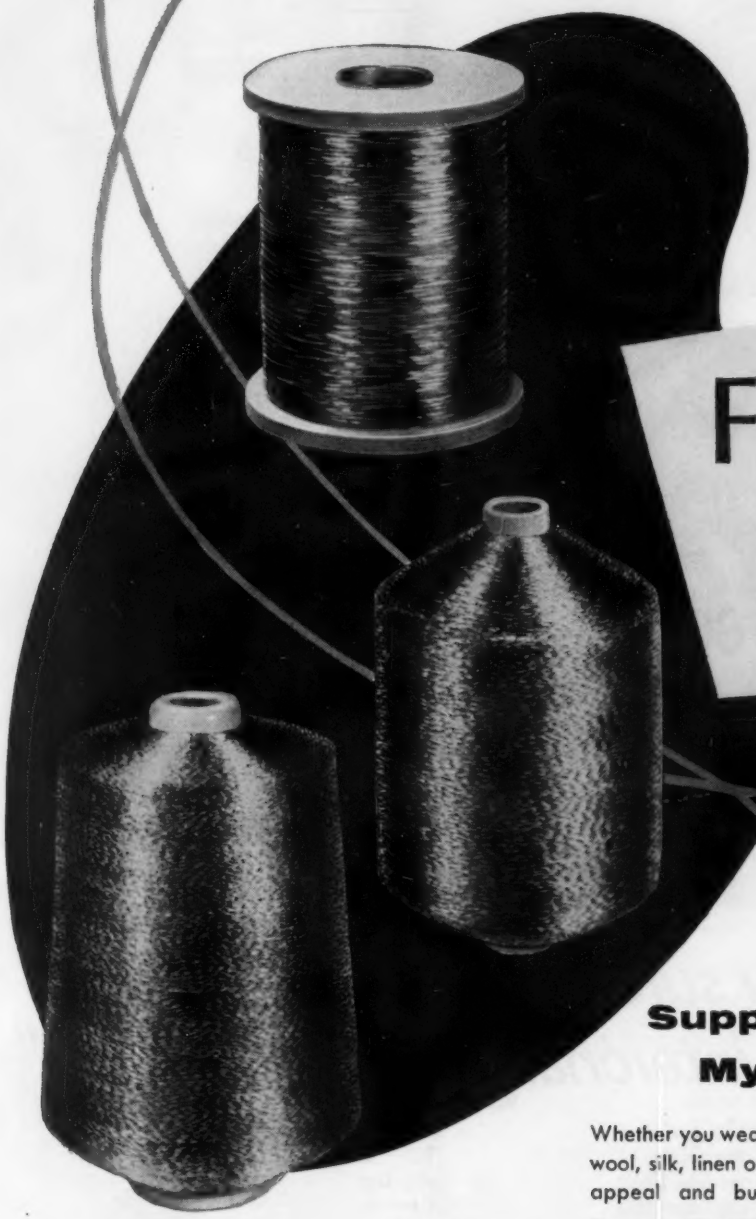
Two important names in the Textile Industry . . .

BRANSON and LASSITER . . .

unite to bring you

NEW, GLITTERING

FAIRTEX® YARNS



Metallic Yarns
Supported Metallic Yarns
Mylar* Metallic Yarns

Whether you weave, knit or crochet . . . whether you work in cotton, wool, silk, linen or the synthetics . . . give your fabrics greater eye-appeal and buy-appeal with new, glittering FAIRTEX Yarns.

These new FAIRTEX Yarns are backed by many years of experience and fifteen months of research and development. To Branson Company's comprehensive knowledge of weaving and knitting has been added Lassiter Corporation's notable proficiency in the plastics field.

FAIRTEX Metallics are non-tarnishing, highly color-fast and heat-resistant . . . they may be fabricated with ease on practically any type of machine.

FAIRTEX Metallic, Supported Metallic and the new Mylar* Metallic Yarns are available now in a wide range of sparkling colors to meet the designers' every requirement.

**Registered Trademark for Dupont's Polyester Film.*

FAIRTEX® YARNS

Metallic • Supported Metallic • Mylar* Metallic

Fairtex Corporation
Charlotte, N. C.

CHARLOTTE
Lanier Branson, Jr. and J. E. MacDougall, Jr.
1808 Liberty Life Bldg.

CHICAGO Napier & Harshman
3555 Peterson Ave.

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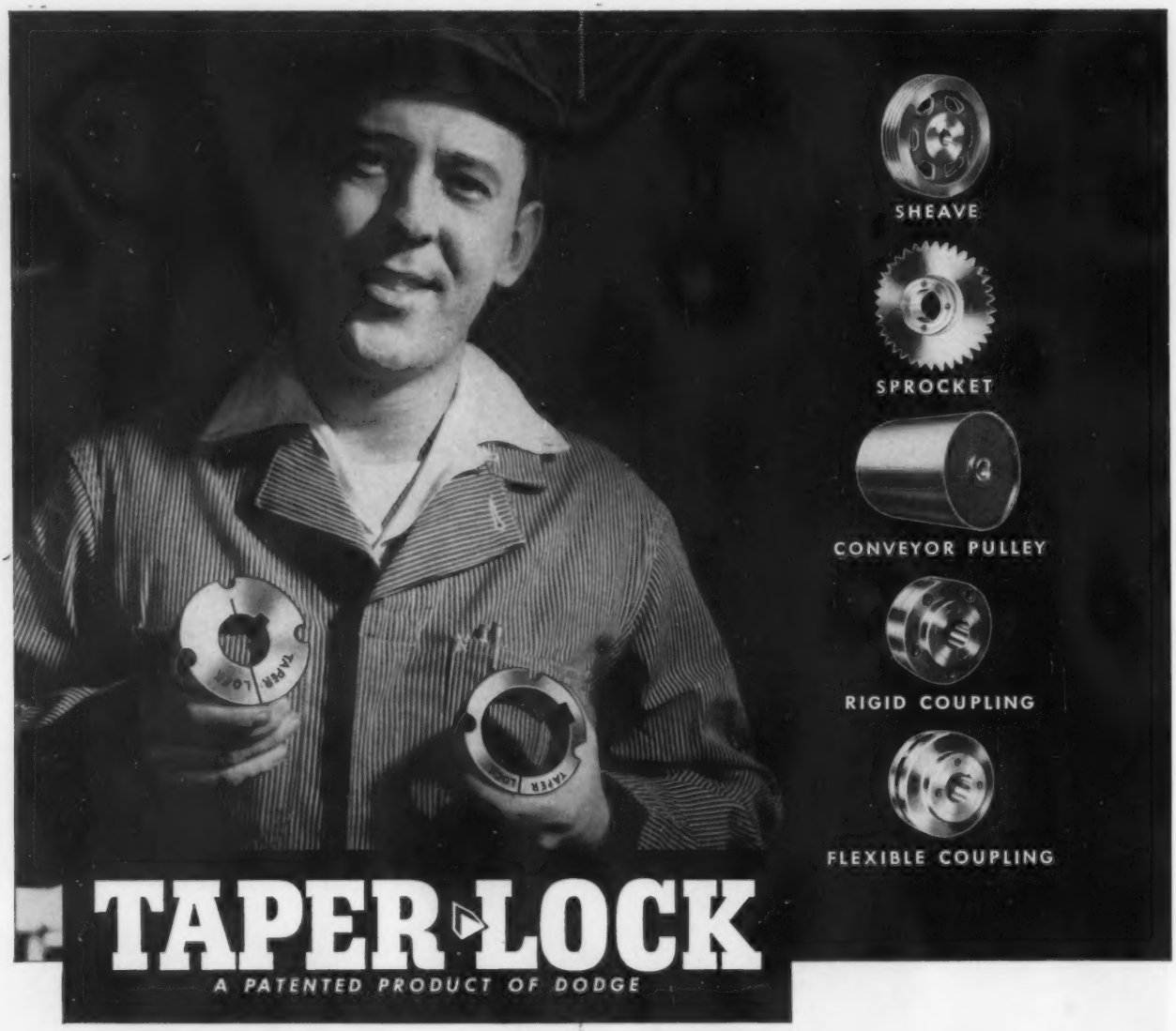
51 E. 42nd St.



TAPER-LOCK

A PATENTED PRODUCT OF DODGE

"Brother...you sure can save with these interchangeable bushings!"

With a few Taper-Lock bushings you can make quicker changes and cut down-time on production machines—because Taper-Lock bushings are *interchangeable*. Shift from a Dodge sprocket to a Dodge sheave, and use the same bushing! Taper-Lock bushings are available in a range of sizes which makes changing from one size shaft to another equally easy and quick.

Mount 'em all with Taper-Lock bushings—your sheaves, sprockets, couplings, conveyor pulleys. They slip on the shaft quickly—hold with the firmness of a shrunk-on fit—come off easily without shock to bearings or machinery. Standardize, economize with Taper-Lock.

DODGE MANUFACTURING CORPORATION, 1400 Union St., Mishawaka, Ind.

THERE'S ONLY ONE TAPER-LOCK, THE BUSHING THAT MOUNTS FLUSH!

CALL THE TRANSMISSIONEER, your local Dodge Distributor. Factory trained by Dodge, he can give you valuable assistance on new, cost-saving methods. Look for his name under "Power Transmission Machinery" in your classified telephone directory, or write us.

DODGE

of Mishawaka, Ind.

. . . impart
the Softness of the Spring air
to your DACRON* and DACRON blends
with AHCOVEL† E
or AHCOVEL 346
. . . and retain this softness even after
repeated launderings . . . outstanding resistance
to yellowing . . . for application by
pad or substantive methods to Dacron,
Dacron and cotton or Dacron and wool blends.
Write for more information
*Du Pont's trade-mark for its polyester fiber
† Arnold, Hoffman trade-mark
AHCO PRODUCTS
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ARNOLD, HOFFMAN & CO., INCORPORATED • EST. 1815 • PROVIDENCE, R. I.
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Atlanta, Ga., Charlotte, N. C., Teterboro, N. J.

Available about Oct. 1

★

Commercial Production of Celanese* Fortisan*-36

SUPER-STRONG HEAVY DUTY RAYON

Fortisan-36 is a high-denier, heavy duty saponified acetate rayon—an even stronger version of famous Fortisan, designed primarily for industrial application.

Pilot plant quantities are now undergoing evaluation in mechanical rubber goods and other fields. Limited poundage is available for further experimentation.

Facilities for expanded production of Celanese Fortisan-36 are nearing completion. Commercial quantities, including 800 denier—800 filament and 1600 denier—1600 filament yarns will be available for delivery about October 1.

Extensive research and development work, both by Celanese and many large industrial users, has established Fortisan-36 as a singularly useful industrial yarn.

Fortisan-36's very high tensile strength, extremely high modulus and excellent dimensional stability indicate that it will have an important place in the making of

V-Belts • Conveyor Belts • Fire Hose
Plastic Laminates • Filters
Paper Reinforcements
and many other applications

If you have a stake in any of these areas—or are concerned with any industrial application where high strength yarns are important—we'd like to work with you on the application of Fortisan-36 to your products.

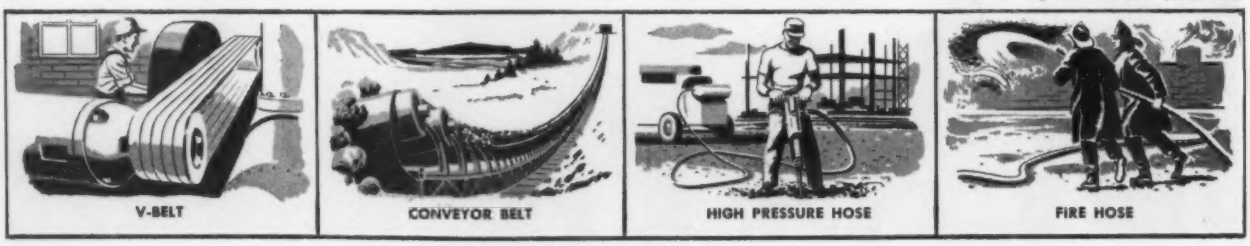
Our technical men have a wealth of data which may indicate some new approaches to your problems.

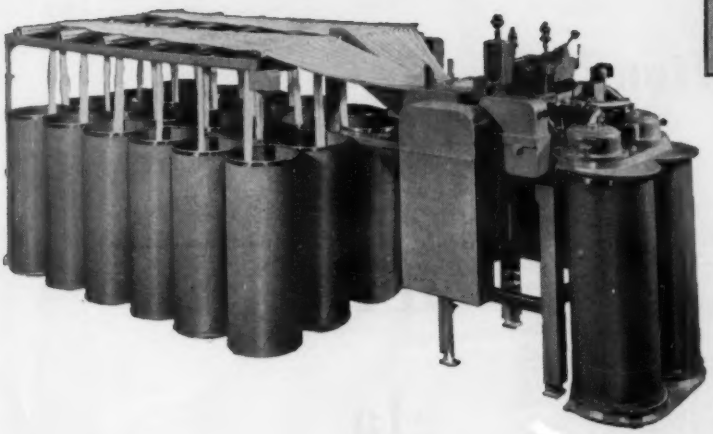
For further information, write Celanese, Industrial Sales Department, Textile Division, Charlotte, North Carolina.

Celanese* Fibers for Industry

FORTISAN* • FORTISAN*-36 • ARNEL† • ACETATE • VISCOSE-RAYON

*Reg. U.S. Pat. Off. †Trademark



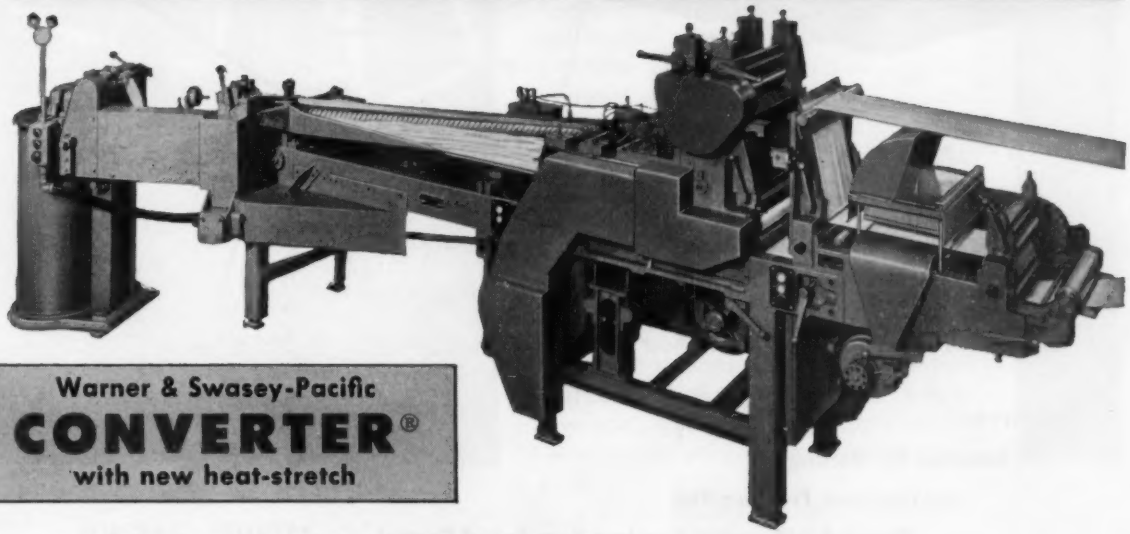


New Warner & Swasey Single Head

PIN DRAFTER®

- Available with single or dual can delivery.
- Better balanced, 50% greater production.
- Produces more evenly blended sliver.
- Handles wool, synthetics or blends.
- Reduces waste.
- Applicable to French, Bradford, or modified systems.

HIGHER QUALITY, LOWER COST PRODUCTION!



Warner & Swasey-Pacific

CONVERTER®

with new heat-stretch

- Converts *all* types of synthetic tow to crimped sliver.
- Cuts and accurately blends synthetics or natural fibers.
- Eliminates blending, carding and gilling operations.
- New heat-stretch unit gives *controlled shrinkage* of Orlon—unit can be added to all existing converters.
- High production—100 pounds to 130 pounds per hour.

75TH ANNIVERSARY YEAR
WARNER & SWASEY
Cleveland
PRECISION MACHINERY
1880 — 1955
TEXTILE MACHINERY DIVISION

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Main Office and Factory: 5701 Carnegie Ave., Cleveland 3, Ohio
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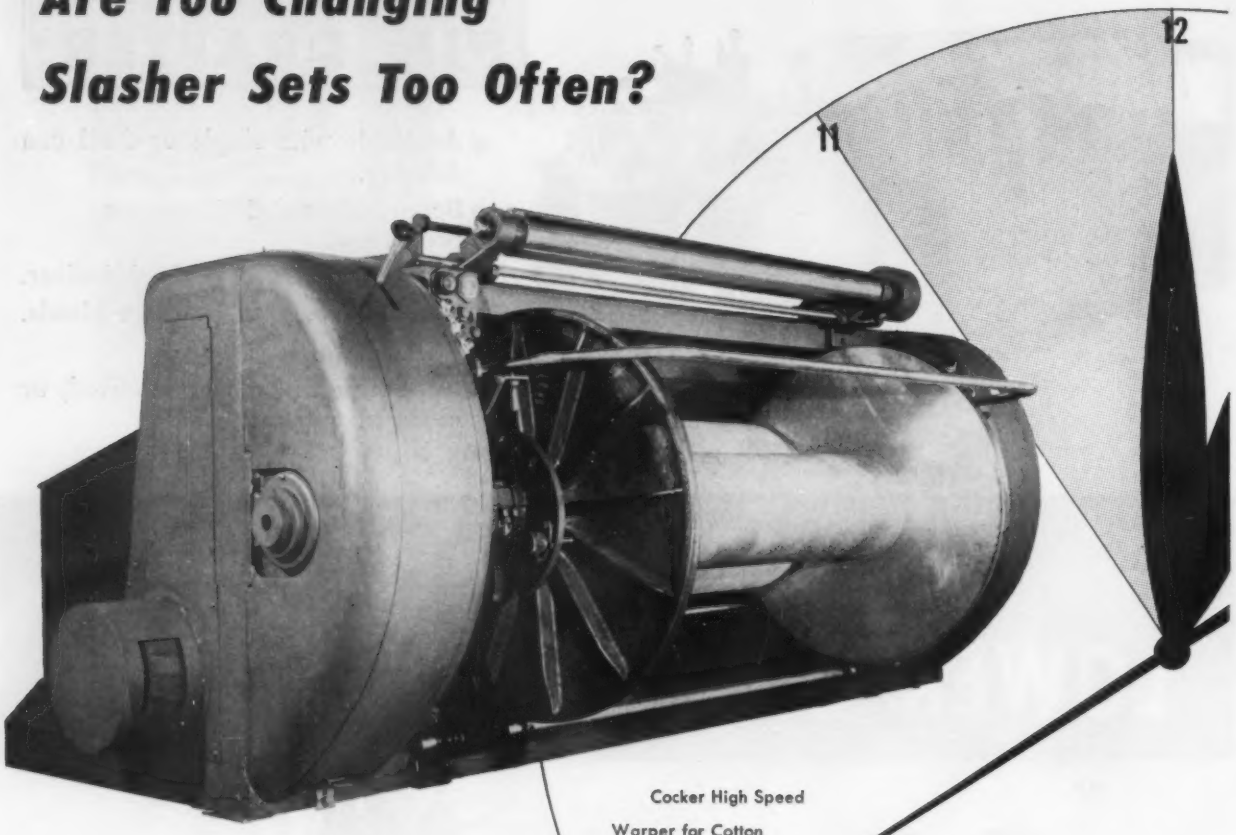
1820 Browning Ave., Charlotte 5, N. C.

® Reg. U.S. Pat. Off.

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS . . . WITH A WARNER & SWASEY

Are You Changing Slasher Sets Too Often?



Cocker High Speed
Warper for Cotton

A leading mill, which formerly made two 28" section beams from one creel, reports that they are now making one section beam on their new Cocker Warper. This eliminates one doffing operation on the warper and one doffing and laying-in operation on the slasher, thus saving a minimum of one hour slashing production for every two sets of beams.

Features:

Patented Air Doffing
Air Operated Pressure Roll
Patented Differential Constant Yarn Speed Control
Rheostat Control of Operating Speed
Individual Braking of Beam Pressure Roll and Carrier Roll by Rheostat Control
Practically Vibrationless at Speeds up to 1000 Yards per Minute
Takes Beam Flange Diameters up to 40 Inches.

Write or wire for full information.

THE LEADER
COCKER
AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

SWIFT'S SOAPS

treat fine woolens right!

For fifty years, Swift's soaps have been giving excellent performance when confronted with normal or even unusual fulling and scouring requirements.

Where long fulling cycles are required to obtain the dense, felted finish . . . the soft hand . . . and long wearing qualities that spell superiority, Swift's soaps can spell performance and economy into the same operation by giving excellent sudsing with maximum mileage.

There's a Swift soap for the textile finishing job regardless of temperature; or for use wherever fine dyeing calls for complete, yet gentle scouring. There's one for *your* particular set of requirements . . . one to give sure, skilled and experienced service —where fine woolens need the *right* treatment.

Write for details today, and remember...

ONE TRIAL IS BETTER THAN A THOUSAND CLAIMS

FOR FAST DELIVERY AND RESOURCEFUL SERVICE

375 Swift's distribution points located throughout the U.S. and Canada can give you immediate delivery on these Swift-quality soap products:

VERTEX FLAKES

●

557 FLAKES

●

WHITE RIBBON FLAKES

●

WOOL FLAKES

SWIFT & COMPANY

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Swift

1855 CENTENNIAL 1955

TO SERVE YOUR INDUSTRY BETTER

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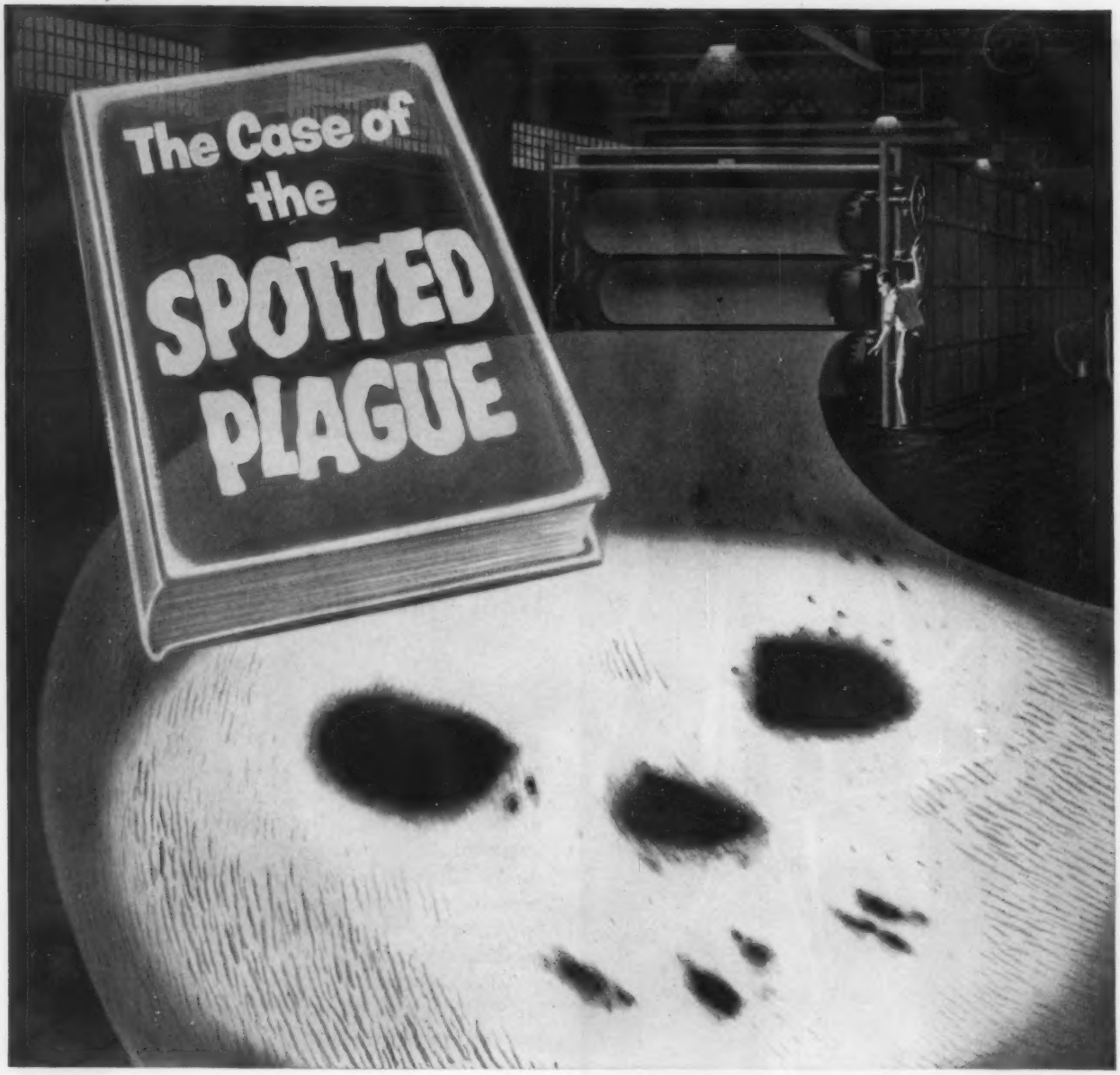


How Correct Lubrication cured it—and saved $10,000 a year!

Stretched taut between two endless tenter chains, the broad band of felt revolved slowly through the long, cavernous dryer. This was premium, snow-white felt, handled with special care to prevent staining. But repeatedly, despite all precautions, the felt emerged dotted with ugly dark spots.

For years, these black spots had plagued a large felt plant. They knew the cause...grease and oil, used on chains and rollers, melted under dryer heat of 240°F. and dripped down on the felt. All attempts at a cure had failed. Production loss was $10,000 annually!

Socony Mobil men, making an analysis of plant machinery, tackled this problem at once. After careful study they recommended special Gargoyle lubricants, set up proper lubrication schedules, trained plant personnel in new application methods. Today, at an annual cost of $30 for dryer lubricants, the company is saving the $10,000 it previously lost!

This entire plant is now protected by a program of Correct Lubrication that has improved production and cut costs in every department. Why not see what such a program can do for you?

SOCONY MOBIL *Correct Lubrication*

FIRST STEP IN CUTTING COSTS

SOCONY MOBIL OIL CO., INC., and Affiliates: MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.
Formerly Socony-Vacuum Oil Company, Inc.

For more information, write direct or use Reader-Service post card.

Norgren...the most complete line of AIR LINE LUBRICATORS

FOR BETTER PERFORMANCE • LONGER LIFE • LESS MAINTENANCE COSTS

79 MODELS...3 OZ. TO 5 GAL. OIL CAPACITIES...⅛" TO 1½" PIPE SIZES

MICRO-FOG LUBRICATORS *for Tools, Cylinders and Other Air Equipment*

½ PT. OIL CAPACITY

Constant Oil Level

5 pipe sizes, ¼" to 1" incl.
Replaceable, transparent oil reservoir. Series 30-41-LC.

Without Constant Oil Level

5 pipe sizes, ¼" to 1" incl.
Replaceable, transparent oil reservoir. Series 30-41-L.

⅓ PT. OIL CAPACITY

¼" and ⅜" pipe sizes.
Replaceable, transparent oil reservoir. Series 30-40-L.

1 QT. OIL CAPACITY

5 pipe sizes, ¼" to 1" incl.
Replaceable metal reservoir.
Constant Oil Level.
Series S3406-LC.

1¾ GAL. OIL CAPACITY

5 pipe sizes, ¼" to 1" incl.
Replaceable, metal oil reservoir.
Constant Oil Level.
Series X3400-LC.

4½ GAL. OIL CAPACITY

5 pipe sizes, ¼" to 1" incl.
Replaceable, metal oil reservoir.
Constant Oil Level.
Series Y3400-LC.

MICRO-FOG BEARING LUBRICATORS *of 32, 200, 300, 1000 bearing inch capacities*

⅓ PT. OIL CAPACITY

Model 30-40-2S—¼" pipe size.
32 bearing inch capacity.

1 QT. OIL CAPACITY

Model S3406-2S—¼" pipe size.
32 bearing inch capacity.

Model S3406-6S—¾" pipe size.
200 bearing inch capacity.

Model S3406-8S—1" pipe size.
300 bearing inch capacity.

½ PT. OIL CAPACITY

Model 30-41-2S—¼" pipe size.
32 bearing inch capacity.

1¾ GAL. OIL CAPACITY

Model X3400-2S—¼" pipe size.
32 bearing inch capacity.

Model X3400-6S—¾" pipe size.
200 bearing inch capacity.

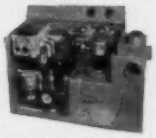
Model X3400-8S—1" pipe size.
300 bearing inch capacity.

4½ GAL. OIL CAPACITY

Model Y3400-2S—¼" pipe size.
32 bearing inch capacity.

Model Y3400-6S—¾" pipe size.
200 bearing inch capacity.

Model Y3400-8S—1" pipe size.
300 bearing inch capacity.



Model 33AB-4
½" Inlet, 2" Outlets.
1000 bearing inch capacity.

OIL-FOG LUBRICATORS *for Tools, Cylinders and other Air Equipment*

3 OZ. OIL CAPACITY

¼" pipe size.
Permanent, metal oil reservoir.
Model 399LB-2.

⅓ PT. OIL CAPACITY

¼" and ⅜" pipe sizes.
Replaceable, transparent oil reservoir.
Reversible. Series O-40.

¼" pipe size.
Permanent, metal oil reservoir.
Model 399-2.

½ PT. OIL CAPACITY

5 pipe sizes, ¼" to 1" inclusive.
Replaceable, transparent oil reservoir.
Reversible.
Series O-41 and O-42.

5 pipe sizes, ¼" to 1" inclusive.
Replaceable, metal oil reservoir.
Reversible.
Series SO-41 and SO-42.

1 QT. OIL CAPACITY

5 pipe sizes, ¼" to 1" inclusive.
Replaceable, metal oil reservoir.
Reversible.
Series S406.

1¼" and 1½" pipe sizes.
Permanent, metal oil reservoir.
Series 406.

2 QT. OIL CAPACITY

5 pipe sizes, ½" to 1½" inclusive.
Permanent, metal oil reservoir.
Series 408.

2 GAL. OIL CAPACITY

5 pipe sizes, ¼" to 1" inclusive.
Replaceable, metal oil reservoir.
Reversible.
Series X400 and X402.

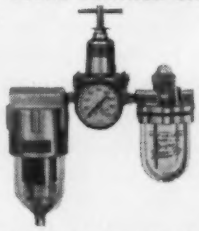
1¼" and 1½" pipe sizes.
Replaceable, metal oil reservoir.
Series X406.

5 GAL. OIL CAPACITY

5 pipe sizes, ¼" to 1" inclusive.
Replaceable, metal oil reservoir.
Reversible.
Series Y400 and Y402.

1¼" and 1½" pipe sizes.
Replaceable, metal oil reservoir.
Series Y408.

LUBRO-CONTROL UNIT



showing typical combination of Micro-Fog Lubricator with Automatic-Drain Filter and Air-Pressure Regulator.

OVER 1,100,000 NORGREN LUBRICATORS PUT TO USE IN INDUSTRY

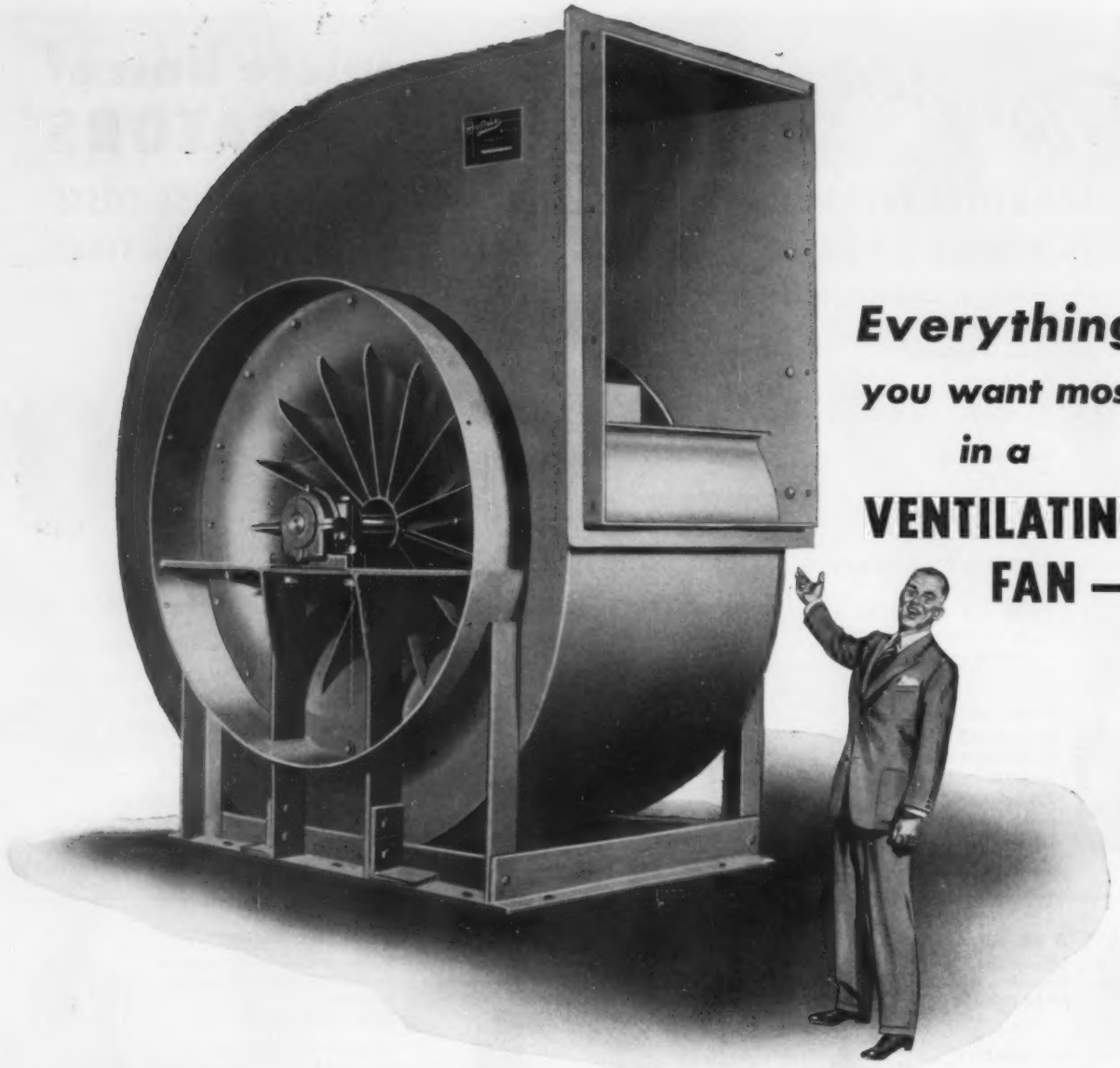
C. A. Norgren CO.
3404 So. Elati, Englewood, Colo.

Phone the Norgren representative listed in telephone directory classified section under "Norgren Pneumatic Products"... or

WRITE FOR CATALOG →

showing latest developments in Micro-Fog lubrication and giving data on Norgren's *complete line* of lubricators, air filters, pressure regulators, valves, hose assemblies.

For more information, write direct or use Reader-Service post card.



Everything you want most in a VENTILATING FAN —

"BUFFALO" HIGH EFFICIENCY

This Type BL Limit-Load fan is the most efficient and stable performer in our 78 years of building fine fans. Its double backward curved blades, its free-flow bell-shaped inlet and properly shaped housing scroll give you the most efficient air delivery — for your ventilation system or for supplying air in air conditioning systems.

"BUFFALO" INBUILT LONG LIFE

Every part of a BL Fan — shaft, bearings, rotor, housing — is designed and built for *permanency*. Accessibility of all parts plus the non-overloading feature, mean low costs through the years.

"BUFFALO" LOW NOISE LEVEL

The same features that make BL Fans efficient, also make them quiet. Air passes through with minimum turbulence, and the precision balanced medium speed rotor means further noise reduction.

"BUFFALO" "Q" FACTOR* GIVES SATISFACTION

*The "Q" Factor — the built-in Quality that assures trouble-free satisfaction and long life — is your assurance of a best buy in all "Buffalo" products.

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BUFFALO FORGE COMPANY

184 Mortimer St. Buffalo, New York

PUBLISHERS OF "FAN ENGINEERING" HANDBOOK

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VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING FORCED DRAFT COOLING HEATING PRESSURE BLOWING

$[C_6H_{10}O_5]_n$

HUNTER CURING OVEN-DRYER

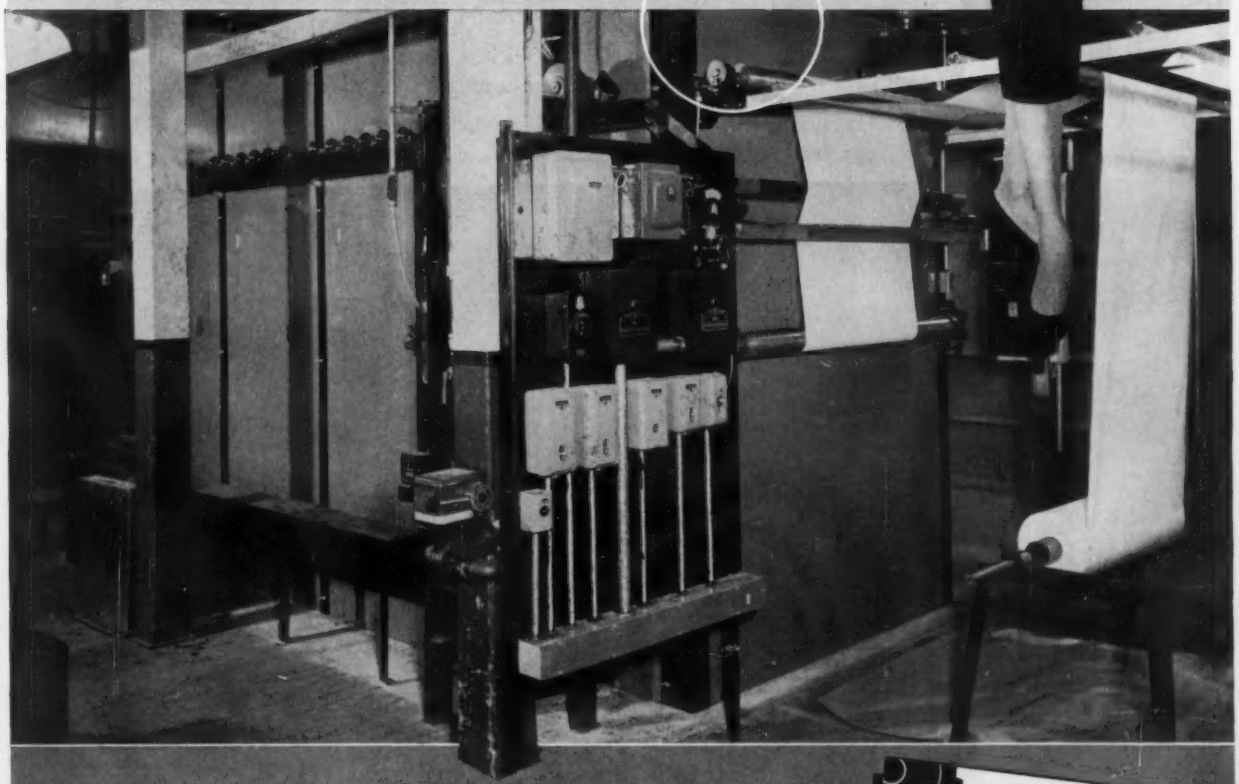
handles **ALL** *cottons and synthetics...*
cuts costs at **SLATER DYE WORKS**

At Slater, as well as at other dye works and textile mills, the HUNTER CURING OVEN-DRYER (Model B) is proving its versatility and efficiency in the curing or drying of *all* resin-treated synthetic, cotton, wool and blended fabrics.

THIS DOUBLE-DUTY UNIT HAS:

1. Even air circulation *through modern design of circulation system.*
2. Uniform temperatures *throughout the entire length and width of the oven by unique placement of nozzles.*
3. Faster, even polymerization *of resins because both sides of fabric are heated evenly.*
4. Insulated *"No-Through" metal paneling holds heat more effectively. As a dryer (69 yard capacity unit), 720 to 900 pounds of water per hour from 40" fabric.*

Get all the cost-cutting facts. Write for Bulletin CO 10 today!



JAMES HUNTER

BUILT BY HUNTER ...IT'S DEPENDABLE

MACHINE COMPANY

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS.

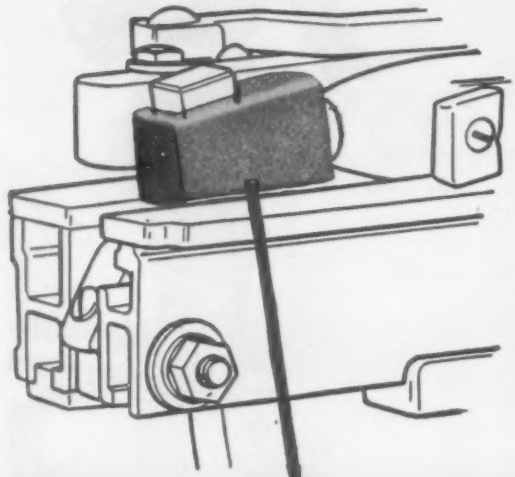
plus production

- efficient operation of modern equipment
- less down time of equipment
- quick, easy repair... rapid parts delivery

Save a Healthy

on check strap and loop picker costs

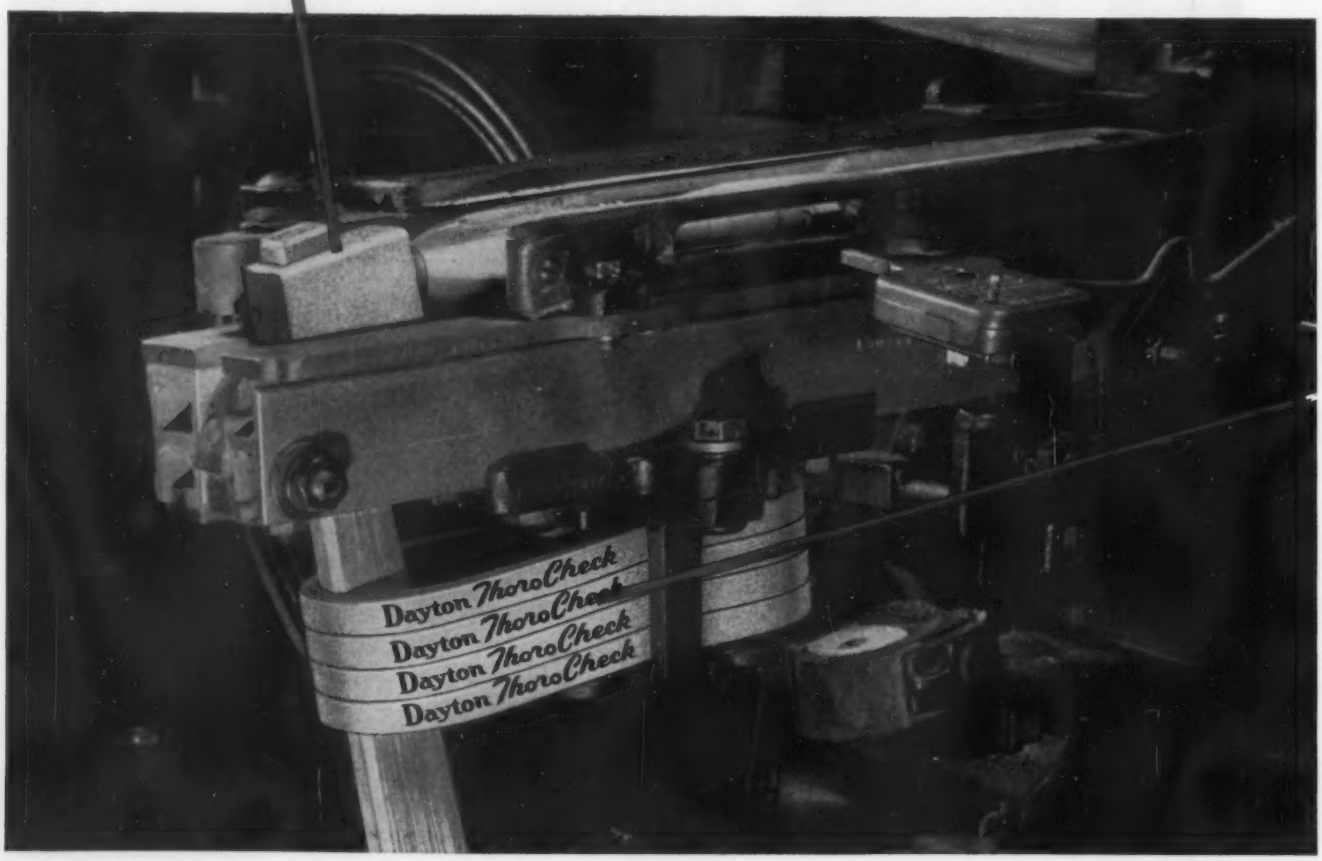
Mill-Proved Dayton Thorobred Loop Pickers and Dayton ThoroCheck Endless Check Straps are performing longer, increasing production and reducing maintenance cost on high speed looms everywhere.



Until you've used Dayton Thorobred Loop Pickers, you've no idea how much more efficient, economical and productive your looms can be. Proof of this is reflected in reports from leading mills . . . "picker costs cut by as much as 50%" . . . "production substantially up" . . . "quality materially improved!"

Made of the highest quality rubber and specially woven fabric, Dayton Pickers have the cushion, strength and durability to withstand the terrific poundings of high speed shuttles for double service life. And they give perfect shuttle contact because the picker stick hole is slightly tilted to insure exact fit on the stick. Daytons keep their shape and jerked-in fillings are practically eliminated.

Too, Dayton Pickers have a flared bottom at the tapered hole for easy, accurate seating on the stick without tearing the loop ply.



25 to 50 Percent

with these Thorobreds by Dayton

Built in one piece, there's nothing to break or expand when Daytons are driven onto the stick.

Dayton's special, precision process of molding fabric and rubber practically eliminates exterior roughness, leaving sides smooth and corners rounded, thus preventing hanging filling and lint pick-up. Daytons are *always* uniform in size and a narrow back eliminates wear on lay end strap.

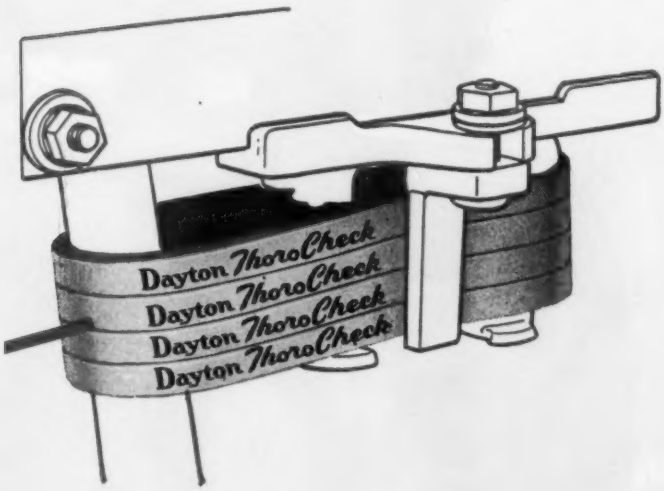
Economy . . . is one *big* reason why more and more mills are equipping their looms with Dayton ThoroCheck Endless Check Straps. They're saving a healthy 25% to 50% in strap costs alone after converting to Daytons—more in time, labor and maintenance! That's because these revolutionary Dayton Endless Check Straps outperform and outlast all other straps in actual mill applications!

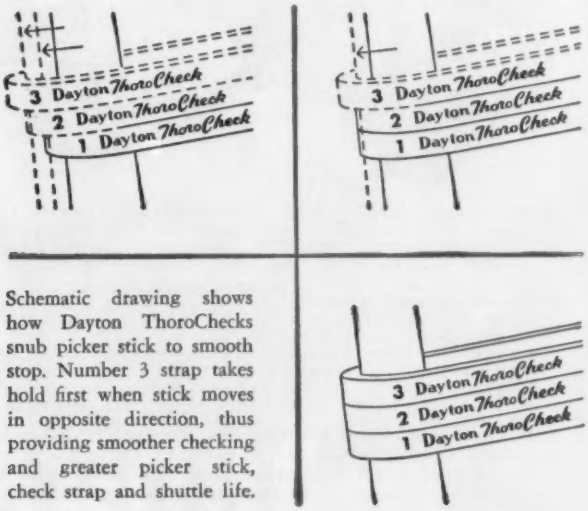
Proof of this: A large southern mill installed them on their X-2 looms. After running Daytons on a 5 day a week, round-the-clock operation for more than 2400 hours, they found no signs of wear and no adjustment was needed . . . and the Daytons are still good for many more months of efficient, economical service. By comparison, other check straps lasted only half as long.

A few of the reasons for such amazing performance are: Dayton ThoroChecks are specially designed and built for safe checking. They eliminate drag over the stick, stop it with a graduated braking action (see diagram), and perform efficiently at the highest speeds.

You get fast, efficient Monday morning starts, too, with Daytons because they're not affected by temperature or humidity. There's no "growing" or elongation, little or no adjustment needed. And, when replacement does become necessary, they may be replaced singly or in sets.

Besides the lower maintenance cost and reduced downtime, you'll get higher production in your weaving operation with Dayton ThoroCheck Endless Check Straps. Make a personal test today. For complete profit-making details write to Dayton Rubber Co., Textile Div., Dept. 346, 401 S. Carolina National Bank Bldg., Greensville, S. C.





Schematic drawing shows how Dayton ThoroChecks snub picker stick to smooth stop. Number 3 strap takes hold first when stick moves in opposite direction, thus providing smoother checking and greater picker stick, check strap and shuttle life.

GOLDEN JUBILEE

Dayton Rubber 50 YEARS OF PROGRESS

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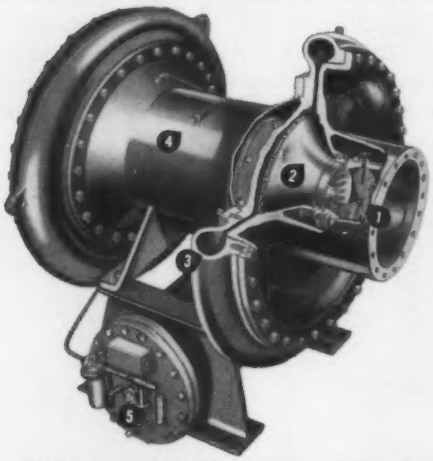
Now! Push-button air conditioning with...

Trane CenTraVac® for runs automatically

Fully automatic refrigeration unit, up to 400 tons capacity, starts at the touch of a button. Exclusive hermetic design and control system eliminates hours of purging and checking shaft seals before start-up, simplifies cooling system operation.

No shaft seals to cause Freon loss or require constant maintenance! All working parts hermetically sealed inside housing. *CenTraVac Freon charge guaranteed for one full year!* **Cuts operating costs!** CenTraVac automatically adjusts to varying cooling needs from 100% to 10% of capacity—with power savings in *almost direct proportion* to load. Saves up to 8% power compared with 4-step capacity control reciprocating compressor. Hermetic design eliminates power-wasting gearbox and ex-

These exclusive features save money



1. Variable inlet vanes.

2. Nonferrous impeller with radial blades.

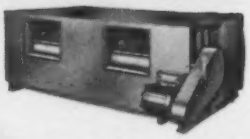
3. Volute housing. Carefully machined gas passages insure smooth gas flow.

4. Hermetically sealed motor.

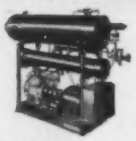
5. Forced-feed lubrication system. Pump located below normal oil level — assuring oil supply.

- **Most modern** centrifugal compressor in the industry . . . gives added insurance against obsolescence for years to come.
- **The only hermetic** centrifugal design. All working parts inside. Eliminates gearbox, expensive variable speed motor, shaft seals . . . saves up to 10% power costs.
- **Matches capacity to load** smoothly from 100% to 10% of capacity . . . saves power . . . boosts efficiency.
- **Unrivaled dependability** . . . longer service—only *one* major moving part.
- **Smoother control** . . . exclusive variable inlet vanes give finer modulation.

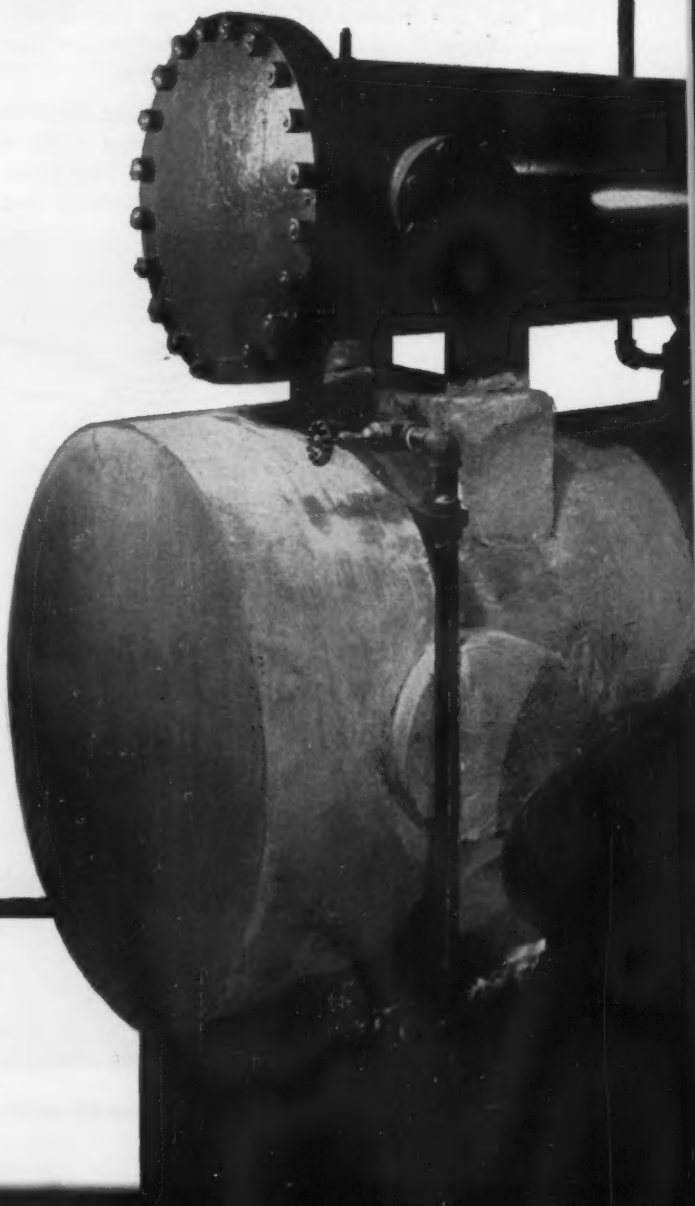
Here's low cost air conditioning. TRANE CenTraVac modulates from 100% down to 10% of capacity—with power savings in almost direct proportion. Now in 8 sizes, 45 to 400 tons capacity. Vibration-free operation, needs no special base.➤



TRANE Climate Changers—full line of factory-assembled air conditioners. 600 to 29,000 cfm.



TRANE Cold Generators—packaged water chillers from 10 to 100 tons capacity.



chilling water...starts, stops, ...no special attendant needed

pensive variable speed motor, thus producing outstanding economies in power consumption.

'Round-the-clock dependability—only one major moving part in the TRANE CenTraVac, heart of your air conditioning system. Simple, hermetically sealed centrifugal design means reliable air conditioning when you need it most . . . years of trouble-free operation.

For future expansion—TRANE CenTraVac refrigeration units can be sized for future plant expansion . . . *without sacrifice in present operating efficiency!*

For complete information on TRANE CenTraVac hermetic centrifugal refrigeration units, call your TRANE Sales Office or write TRANE, La Crosse, Wis.

one source · one responsibility

TRANE

Refrigeration Equipment

for more dependable . . . lower cost air conditioning

MANUFACTURING ENGINEERS OF AIR CONDITIONING, HEATING, VENTILATING AND HEAT TRANSFER EQUIPMENT

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Salute to a new era . . .

Experience, foresight and enterprise have been combined to produce this latest addition to the SES range of Textile Machines. It heralds a new phase in uptwisting and sets a pattern of standardisation which has been long overdue. Future trends have been anticipated, for it takes larger packages, an infinite variety of yarns and has speeds far in excess of present day standards.

Welcome then

THE SYDNEY & E. SCRAGG

J.V. UPTWISTER

A HOST OF AMAZING FEATURES, INCLUDING

The Mark II Super Heavy Duty Roller Bearing Sescoflex Spindle, incorporating the virtually indestructible triple 'Hycar' suspension system.

A new and unique constant belt pressure spring giving unprecedented steadiness to the spindle.

The machine frame is cross-braced to give absolute rigidity making it suitable for the heaviest foreseeable package.

Individual drive to each deck with a new positive self-adjusting belt tension mechanism.

New type, non-lifting, roller bearing, light alloy jockey pulleys on hardened and ground nickel chrome spindles with large capacity oil reservoirs.

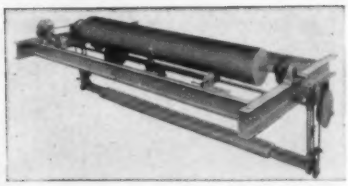
SYDNEY & E. SCRAGG LIMITED

OXFORD ROAD WORKS, MACCLESFIELD

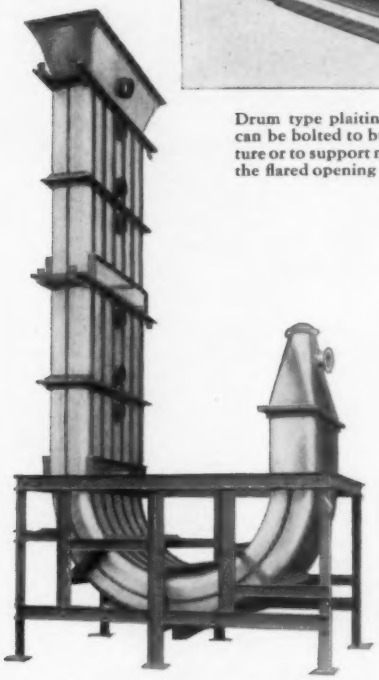
TELEGRAMS: 'PARKMIL' MACCLESFIELD, ENGLAND

WIESNER-RAPP
J-BOXES

Wiesner-Rapp open width J-Boxes for the DuPont process are also available. Design is essentially the same as J-Boxes for roped goods.



Drum type plaiting mechanism can be bolted to building structure or to support members over the flared opening of the J-Box.



For the DU PONT process

Distinguishing design features of Wiesner-Rapp J-Boxes for the DuPont process are the pre-heat tube and steam manifold, and the enclosed plaiter mechanism. Steam injected into the pre-heat tube heats the cloth as it is introduced into the J-Box. Additional steam supplied in the enclosed plaiter mechanism thoroughly heats the cloth as it is plaited into the J-Box.

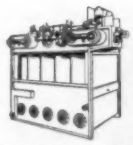
For the BECCO process

Features of the Wiesner-Rapp J-Box for the Becco process are the open plaiting mechanism, flared J-Box top section, and provisions for flooded operation of the curved bottom section, permitting smooth travel of the cloth through the J. Steam manifolds located at different levels in the high side of the J heat the cloth during and after plaiting.

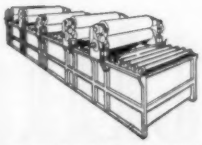
There is a Wiesner-Rapp J-Box to fit your mill's continuous processing requirements, whether large or small. A wide selection of J-Box capacities is made possible by combinations of standard sections which are available with design features for either the Becco or DuPont process.

Wiesner-Rapp J-Boxes are known for their high quality construction, having double welded seams, extra heavy curved bottom, steam-tight section joints, generously rounded corners and polished J-Box interior surfaces to facilitate smooth travel of the goods. Pyrex sight glasses are installed at different levels, flush with the inside surface. The delivery end is provided with a quick-action, positive-locking access door .... Our technical staff will be glad to discuss your processing requirements in detail, whether they are for a complete Wiesner-Rapp Bleaching Range or a J-Box to work in harmony with your other equipment.

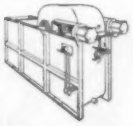
OTHER WIESNER-RAPP MACHINES



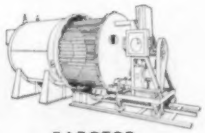
MULTI-STAGE WASHER



OPEN-WIDTH WASHER



SATURATOR



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Manufacturers of Wet-Finishing and Dyeing Machinery

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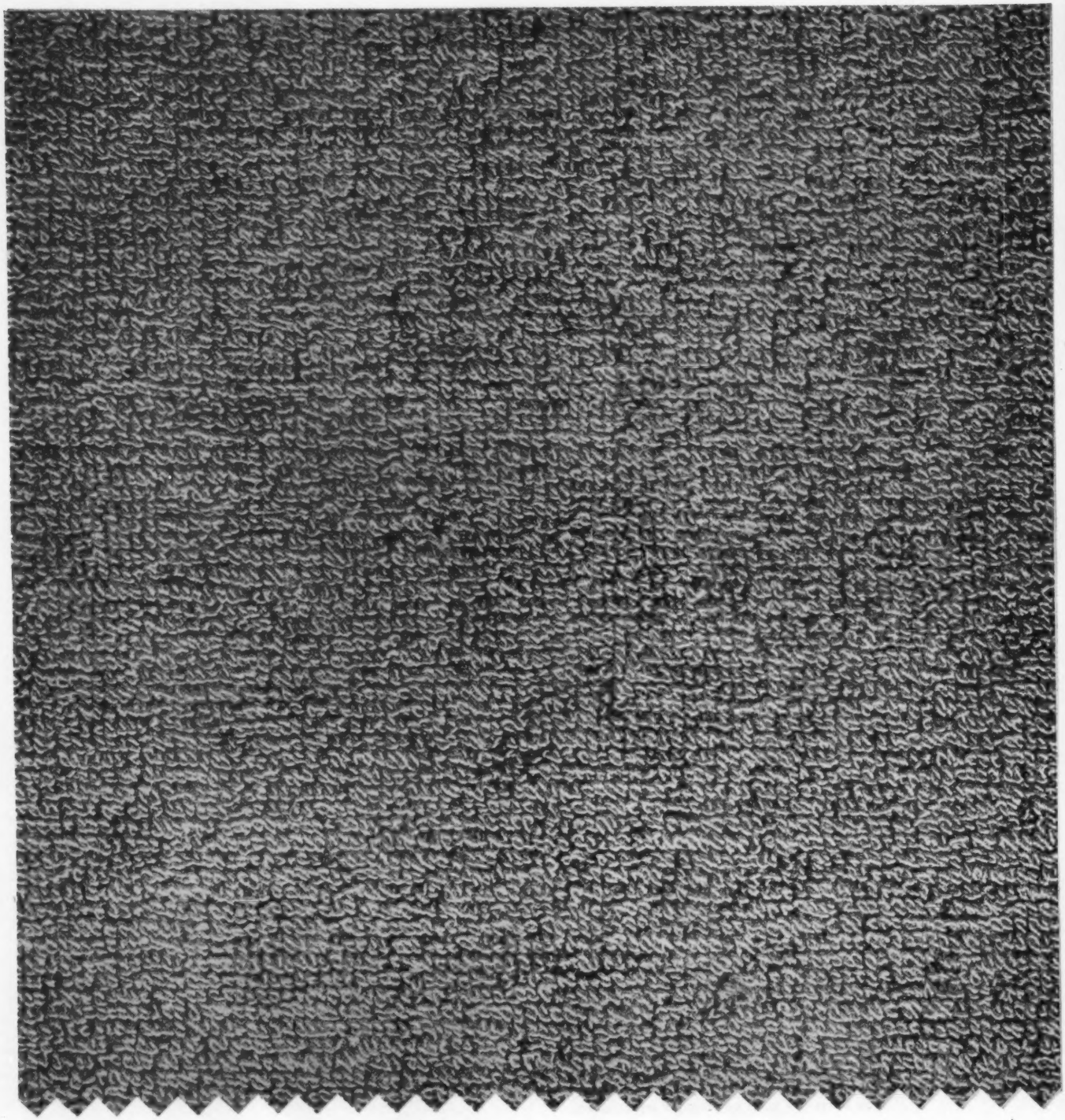

carpeting by Masland and by Mohawk ... a blend using

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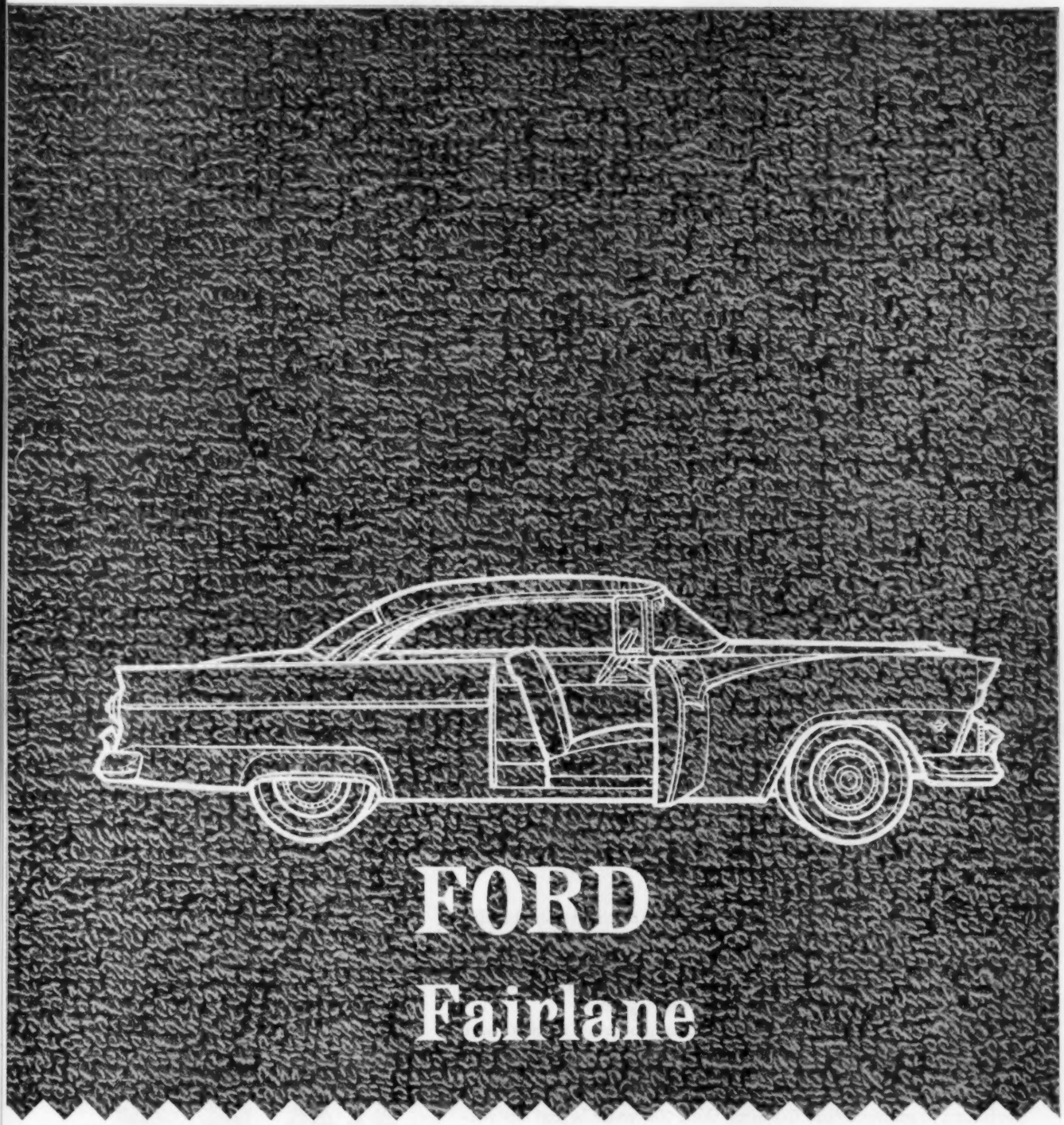

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Introduced less than a year ago, the NEW Nylon Staple by IRC is already in important use in America's most important industries. The biggest names in the automotive field are featuring blended carpeting using this uniquely different staple. Leading mills report that it is a better nylon staple in many ways. It has seven new and distinctive features capable of producing new and better effects.

- **MORE RESILIENCY** *with less* **CRUSHABILITY** • **GREATER STRENGTH**
- **BRIGHTER LUSTER** • **BETTER CRIMP** • **GREATER RESISTANCE TO ABRASION**
- **LOWER DYE COSTS** • **NEW ECONOMY FOR YOU**

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How big is a micro-inch?

At Crane it's *mighty big* . . . because it is one of the noticeable differences between Crane Quality Valves and the run-of-the-bin kind.

Measuring seating surface smoothness in micro-inches is the job of the Crane technician in the picture. His findings are important to keeping Crane production at the high-quality level.

Crane carefully measures seating surface smoothness to make sure that the Crane Valves you install will operate smoothly without seizure, seat tightly and wear longer, thus helping reduce your maintenance and repair costs to the minimum.

Such care in manufacture for more than 100 years is just *one* reason why thrifty buyers prefer Crane Valves . . . why industry keeps on using more Crane Valves than any other make . . . why you should always buy Crane.

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Better Quality
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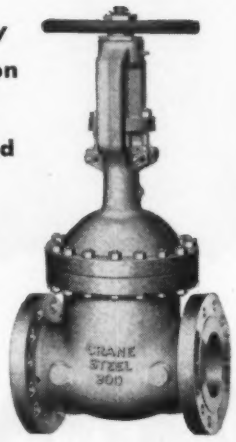
in Valves
for Every Need



CRANE CO.

VALVES · FITTINGS · PIPE
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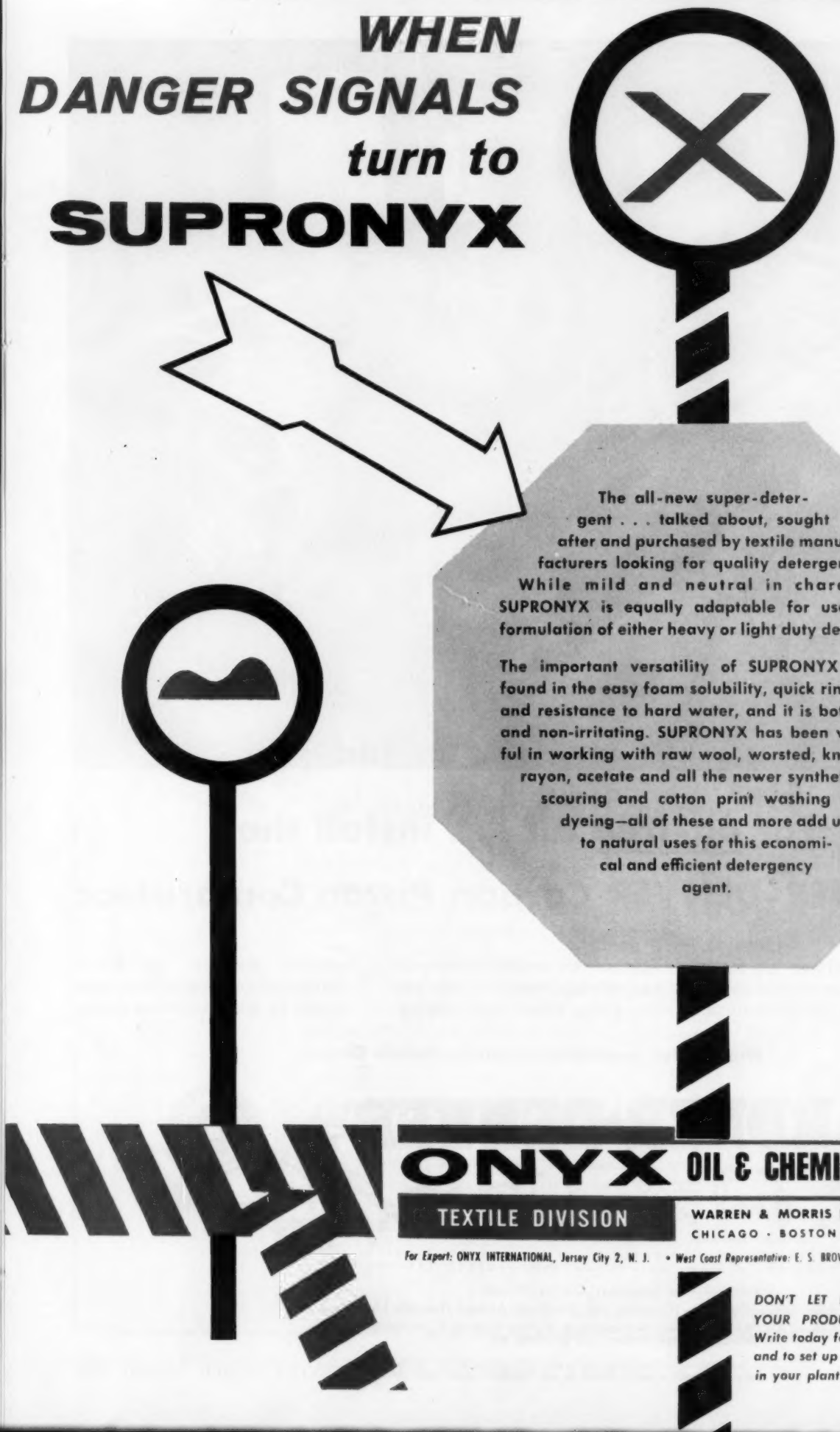
CRANE'S FIRST CENTURY...1855-1955

WHEN DANGER SIGNALS turn to SUPRONYX



The all-new super-detergent . . . talked about, sought after and purchased by textile manufacturers looking for quality detergency. While mild and neutral in character, SUPRONYX is equally adaptable for use in the formulation of either heavy or light duty detergents.

The important versatility of SUPRONYX can be found in the easy foam solubility, quick rinseability and resistance to hard water, and it is both gentle and non-irritating. SUPRONYX has been very useful in working with raw wool, worsted, knit goods, rayon, acetate and all the newer synthetics, in scouring and cotton print washing and dyeing—all of these and more add up to natural uses for this economical and efficient detergency agent.

ONYX OIL & CHEMICAL COMPANY

TEXTILE DIVISION

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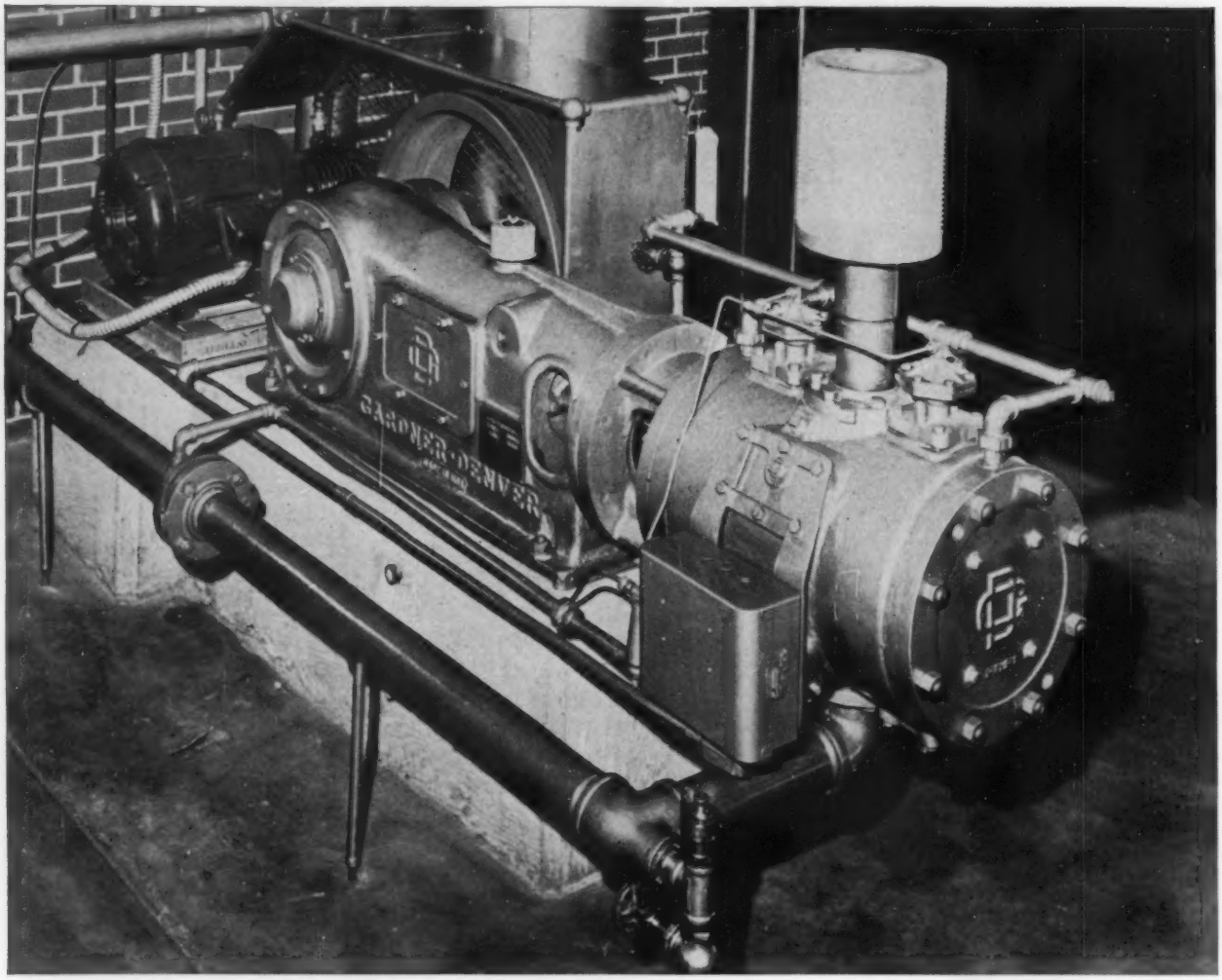

For oil-free air . . . install the GARDNER-DENVER Carbon Piston Compressor

Delivers pure, oil-free air that's safe for foods, beverages, chemicals, textiles, and instrumentation.

Uses no oil in the cylinder — has self-lubricating carbon piston, piston rings, and packing.

Delivers low-cost air that's economical for general plant uses as well as special, oil-free needs.

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Precisely. Customer of ours packs these handsome double dressers (disassembled, of course) in this compact corrugated H&D box, ships them as far away as South America without a scratch.

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There's no room for error when it comes to producing first quality fabrics. That's why many of America's leading manufacturers insist on Textile Spring-Beard Needles — needles that are uniform in all dimensions and properties — needles that keep your machines young, effective, profitable.

Textile SPRING-BEARD NEEDLES

Wire Products Division

TEXTILE MACHINE WORKS, READING, PENNA.

The LONG-RANGE VIEW

Japan and the Other Side of TARIFFS

A strange noise has just come out of Japan. Late in June, the Japan Wool Weavers' Association submitted a petition to the Japanese government asking that wool imports from Britain be stopped. The reason given for the request was that the imports were "disturbing" the domestic market.

Coming so close on the heels of the astonishing tariff cuts dished out to Japan by the U. S. government for cotton goods entering the U. S., and even before the cuts are officially in effect, this plea for protection by Japanese mills is somewhat farcical.

We can't help wondering what the reaction is among the people in our own government who rode so rough-shod over the interests of the U. S. textile industry. We also wonder what the loud-talking, sanctimonious people in other industries who had so much to say against the U. S. textile industry now think of the Japanese they were so hell-bent to help.

Imports Are "Unjustified"

The main argument of the Japanese woolen-mill men is that imports from Britain are "unjustified" because the Japanese produce enough woolens themselves for the Japanese market.

This argument sounds quite familiar. It has been stated over and over again in the U. S. by U. S. mill men about the U. S. market. It is a sound, sensible, realistic argument, whether it is made by U. S. mill men or Japanese mill men. It simply makes no sense at all in any country to sacrifice a domestic industry built up for a domestic market for the benefit of a foreign country.

We don't know whether or not the Japanese government has deliberately cut the throats of Japanese wool weavers, as the U. S. government has done to U. S. cotton weavers. We have seen no indication that it has. The Japanese government never seems to be afflicted with the queer, moon-headed individuals that our own government seems to spawn.

So it seems safe to assume that the British goods are going into Japan without special help from the Japanese government. The fact that Japanese mills are asking, not for tariffs that would equalize prices, but for a flat embargo also indicates that the British are not being coddled by the Japanese government.

Therefore, the only "injustice" seems to be one of omission; whereas, our own government has gone out of its way to commit a positive injustice.

Quandary for Japan

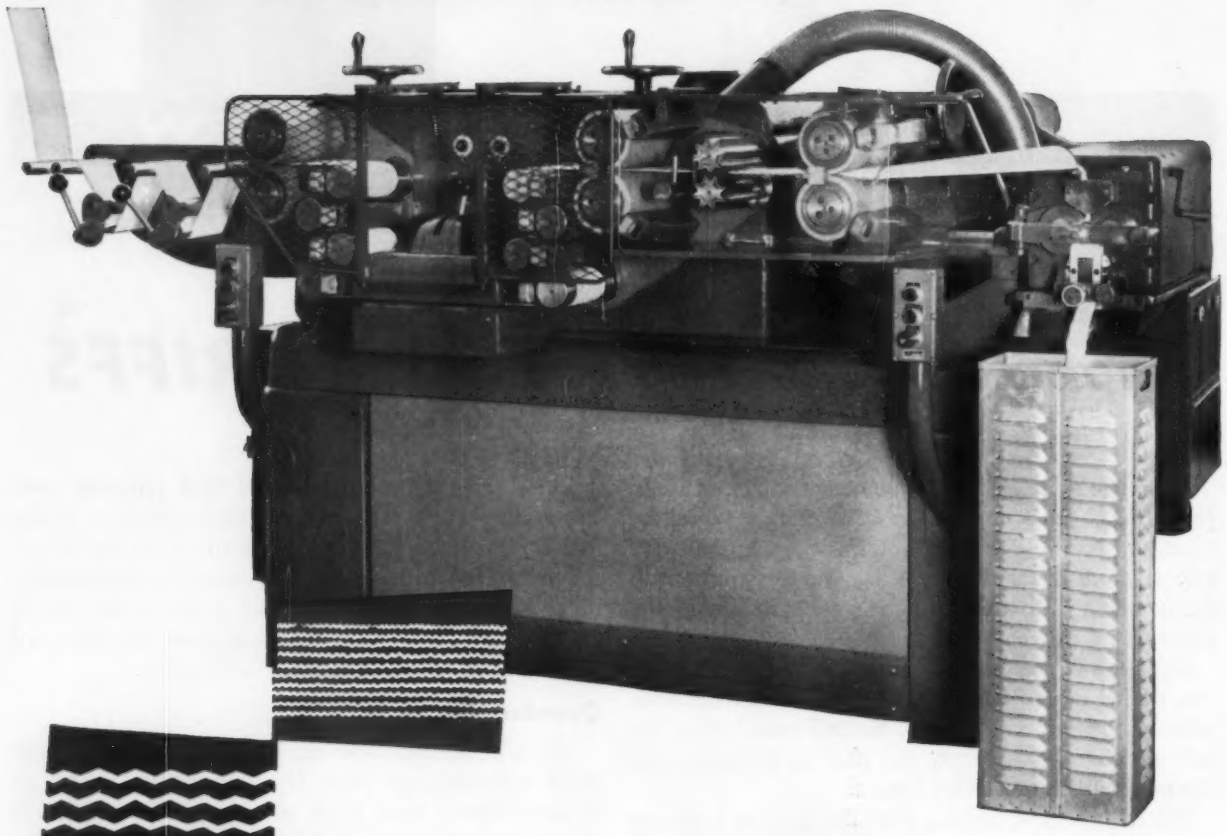
We have no idea how the Japanese government will meet this challenge from Japanese woolen mills. If it were imports from U. S. mills instead of British, of course our own government would probably stop the imports, apologize, pay whatever damages were asked for, and humbly ask what else it could take from the U. S. textile industry and give to Japan. But since it is British woolens, something else is very likely to happen.

It is a little difficult to see how the Japanese government, after clipping the U. S. for such a bonanza for its cotton mills, can turn a deaf ear to its woolen mills. On the other hand, it is also difficult to see how Japan can embargo woolen imports just after receiving such festive treatment from the U. S. "world traders"—unless, of course, they realize that it is perfectly safe to be insultingly arrogant to our soft-heads in Washington.

At any rate, it will be interesting, and perhaps educational, for U. S. mill men to watch the outcome. It would not be surprising to see our gleaming-eyed givers-away in Washington step in and take a hand. It doesn't seem very reasonable that they have forgotten that they still have a textile ace up their sleeve: the U. S. woolen and worsted market. This also could be given to Japan, even indirectly and by way of Britain.

A. M. Thomas

JACK OF ALL FIBERS



MASTER OF EACH

In one mill a Turbo Stapler ran one synthetic on Monday, another on Tuesday, and a third on Wednesday — with only minor machine adjustments for each fiber. That is a bit unusual, but it does show the machine's versatility. Since all man-made fibers start as tow of parallel, continuous filaments, the Stapler can handle them all. It controls heat-stretching, controls fiber breaking and controls crimping to convert any tow into staple with the specific characteristics *you* want. And, the Stapler does this by simple machine adjustments — *without machine modification.*

Here's what it did with Orlon*.

By using Orlon's heat-stretching and shrinking properties, the Stapler made it into an even softer fiber with greater loft. High-Bulk Orlon, produced the Stapler way, became the leader in the sweater trade. The Stapler brought out the inherent properties of the fibers, enhanced them for this particular market, and *kept* their parallelism and uniformity.

That's what happened to one fiber.

If you're interested in "fiber-engineering" with today's synthetics, or tomorrow's, call for a Turbo engineer. He'll tell you and show you what a Stapler can do — and work with you on your fiber problems.

TURBO
SINCE 1929

TURBO MACHINE COMPANY
LANSDALE, PA.

Makers of precision Heat and Steam Setting Machines, Crimper and Tow Processing Equipment

*Reg. DuPont T. M.

Lagging Public Construction — A Spreading National Blight

The most recent editorial in this series dealt with the plans of American industry for expanding and modernizing its plant and equipment over the next four years. These plans call for the expenditure of $113 billion over that period. There is a good prospect that the money to carry them out will be available. If the plans are carried out, manufacturing capacity at the end of 1958 will be double that which existed at the end of World War II. And this industrial plant will be modernized.

In sharp contrast to this picture is the condition of our *public* plant and equipment — the roads, schools, water supply, health and sanitation facilities upon which industry, as well as the average family, depends. **According to a recent estimate by the Twentieth Century Fund, the people of the United States must spend almost $100 billion on new public works projects during the next five years merely to meet the minimum needs of our growing economy.**

Other estimates by the President's Council of Economic Advisers, by state agencies and by private construction economists all show the same condition: a staggering need for public works. Yet no steps have been taken that even offer a promise of closing the gap between the public facilities we are building and the greater facilities we really need.

How did we come to let our public facilities fall into this sorry state? Here are some of the reasons:

(1) During the years of depression and war, from 1930 to 1945, these facilities were neglected. New construction declined, and even maintenance was cut.

(2) Since the end of World War II, increased construction costs have made it difficult for communities to get the needed construction with the funds budgeted in the past for that purpose.

(3) The great postwar upsurge in population, and the spreading of our population into new areas, has created a huge demand for additional community facilities before the neglect of earlier years could be made up.

Responsibility Divided

Now the need for more public construction has become apparent to everyone, on jammed highways and in over-crowded schools. But, unfortunately, the responsibility for doing something about this situation cannot be so clearly fixed as can the responsibility for maintaining industrial facilities. A business firm must expand its capacity when markets are growing or lose its trade position. It must modernize its plant and equipment or be undersold by more efficient competitors. In the case of public facil-

ities, there is no such competitive incentive. To be sure, a city or state may lose population and industries if its public facilities are inadequate. But such shifts are very slow to take place and difficult to relate to any specific public program, or lack of it.

Moreover, the responsibility for constructing public facilities is divided between state and local governments and federal authorities. Within each of these governmental units there are specialized bureaus or departments with varying responsibilities. This division of responsibility obviously adds an element of difficulty to the development of an adequate program of public construction.

Breaking the Log-Jam

How can this administrative log-jam be broken and the financial difficulties overcome?

One course would be to have the federal government step in with a nation-wide new program of direct spending on public works. That would utilize the resources of the federal treasury for immediate action. But there are weighty objections to such extensive federal participation. One is that federal spending cannot be greatly enlarged without a corresponding increase in the federal control of decisions that normally have been left to local communities. Another objection is based on the fact that so long as we must maintain a large defense establishment, such an addition to federal spending means either higher taxes or a chronically unbalanced budget.

The other course is to rely primarily on local initiative, but with new and more effective federal aid to local governments. Such aid would help speed up planning and construction, and contribute toward a solution of the most burdensome financing problems, but in amounts sufficiently limited to require that most of the capital be raised locally.

No Single Formula

No one formula can be applied to make such aid effective. The raising of funds for new schools, for example, involves problems very different from those of financing highways, or water-works, or hospitals. But it does seem clear that, in all these fields, the federal grants must be designed to stimulate more local planning and financing than has prevailed in the past. Among the new ideas that may offer such incentives are federal grants for planning and initial costs and federal guarantees of local bond issues. Such aids have been remarkably effective in the fields of slum clearance and public housing.

While the federal government clearly has a role to play, we cannot afford to postpone inauguration of an adequate public construction program while we seek a formula to apportion governmental participation that would be generally accepted as ideal. Every year about 2½ million more Americans are putting increasing pressure on a public plant already dilapidated and inadequate. The result is an increasing menace to comfort, health, education and safety. It is also an increasing menace to the effective performance of American industry.

The appropriate public response to this situation is a driving public determination to eliminate this increasingly dangerous lag in public construction. At this juncture, the development of such a determination is basic. Nothing stands in the way of an adequate program of public construction that a determined electorate cannot remove.

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments that are of particular concern to the business and professional community served by our industrial and technical publications.

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Donald C. McGraw

PRESIDENT

McGRAW-HILL PUBLISHING COMPANY, INC.

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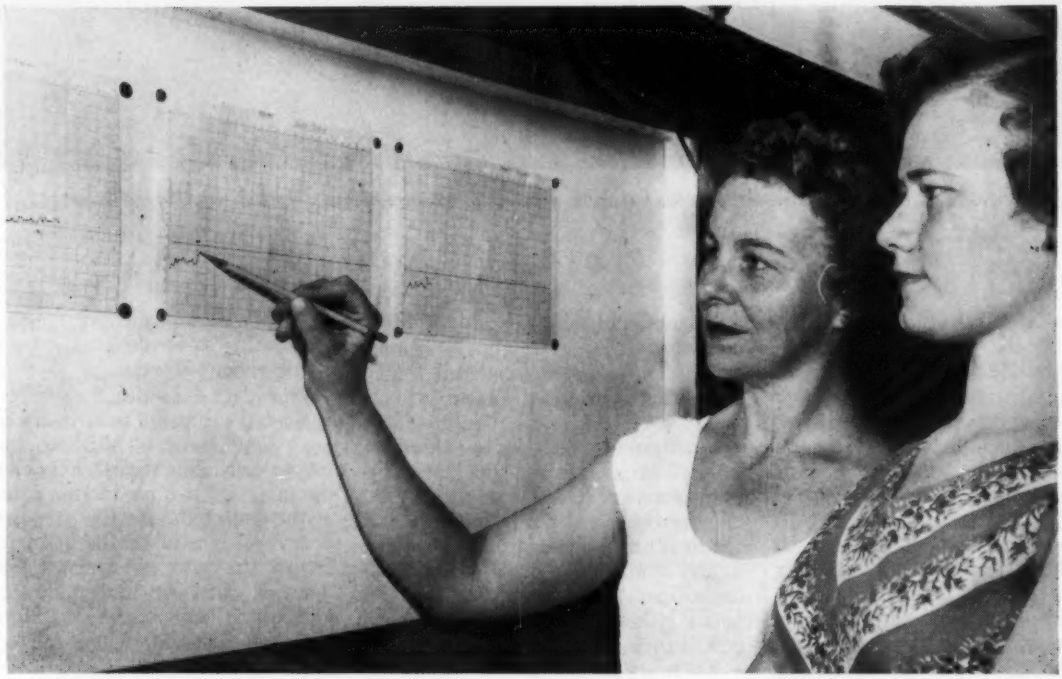


CHARTS are recorded daily for each trainee. The red straight line is the target. This girl's production soon picks up.

30% More Production With RETRAINED WORKERS

- Slow workers' pay must often be made up to the 75¢ minimum wage. With a possible switch to a $1.00 minimum wage, this make-up pay would become more serious.
- A Georgia knitting mill tackled the problem by retraining loopers in a different manner to the one they were taught. The results have been gratifying.

By **JAMES H. BLORE,** Associate Editor, TEXTILE WORLD

LOOPING SCHOOL is divided from the knitting room by a partition. Jobs are broken down and timed by instructors.

THERE ARE still many repetitive jobs in the textile industry that require high-skilled labor. These jobs take many months to learn. Sometimes workers never do acquire high speed; their production is low compared with other workers, and their pay must often be made up to conform with the 75¢ minimum wage rate.

Circular-hosiery looping is one such job. Spalding Knitting Mills, Griffin, Ga., has several hundred loopers. Some of these girls whose production was as low as 130 doz. per week have been retrained. Their production is now 170 to 180 doz. per week. One girl who averaged 145 doz. 160-needle goods weekly now produces 200 doz. per week.

The retraining plan is run in conjunction with the A. M. training system [See TW, March, '54, p 98]. Spalding has a looping school partitioned off at the end of the knitting room where new girls are taught to loop.

Two looping benches are arranged in the school with both benches facing a large clock on the wall. The clock has a second hand used by all trainees for self-timing purposes. The back bench is occupied by new trainees, and the girls for retraining work on the front bench.

The room is air-conditioned, with glass-block windows down one side and fluorescent lamps over each bench. Progress charts and other aids are pinned on the walls.

Two girls were selected each two weeks from the production room to be retrained. These girls are workers who consistently show low production figures.

Girls Get Aptitude Tests

Each girl selected is given three aptitude tests. One test consists of fitting a series of mated shapes together. Another test is a peg-board test, and the final test is a perception test where figures and letters in a dotted-and-dashed area must be picked out. So far, all girls selected for retraining have passed these tests.

There are no dexterity exercises such as are given in the A. M. method of training. The two girls immediately start to loop in their own fashion while they are watched by the instructor. The instructor times each part of the job and takes note of the faults.

New methods are then taught the trainees. These methods include the basic fundamentals of placing the loops on the points.

The instructors stand over the trainee for a week to make sure that the correct methods are adhered to. Production is not stressed during this period. Times for each job part are recorded daily for two weeks.

Targets, based on the instructor's production, are set for various lengths of time. The time for looping one sock at the start of the course is about 38 secs. This time is cut down to 23 secs. in eight weeks.

The targets for various periods are:

10 mins. —18 socks
20 mins. —34 socks
30 mins. —52 socks
1 hr. — 4 doz.
2 hrs. — 8 doz.
Morning —16 doz.
Afternoon—16 doz.
One day —33 doz.

Several forms are used to aid teaching. One form is filled in by the looper daily. She records her daily production, and this production is totaled at the end of the week.

A form is used by the instructor to record the progress of each trainee. The job parts are broken down, and a record is kept of the correctness of the operation and when the correction was made.

A personal record, including attitude and appearance, is kept on the same form. Production before and after retraining is also recorded.

Charts Are Incentive

A graph for each looper is pinned to the wall and the production is plotted daily. A red line is drawn across the target figure, and the production is plotted with a black line to serve as an incentive to higher production.

The girls are also taught to check three or four socks out of each dozen for faulty looping. An instructor also checks alternate dozens for faults.

The retrained loopers remain in the school for about eight weeks. They remain on the minimum rate until they reach the quota, when they switch to piece work.

Eight retrainees work in the school at one time. When their production reaches 170 doz. per week, they are moved back to the production department. Records are kept of their prog-

CLOCK on wall has second hand, and loopers that are retrained time themselves after faulty methods have been rectified.

ress when they move back into the mill.

The school is run by Christine Buchanan, who has been with Spalding as an instructor for several years. Christine has an assistant, and both instructors were specially trained for the retraining jobs. An instructor for this training was provided by Geoffrey Ladhams, who introduced the A. M. training system.

The instructors were not chosen for their speed but for their ability to get along with people.

An interesting sidelight of the program was the production of the instructor who went back on production when training was caught up. Her usual production of 200 doz. 160-needle socks shot up to 260 doz. per week.

The first few girls were difficult to retrain, but now the system is running smoothly and all Spalding loopers are now high-production workers. The system has been beneficial to both workers and management.

Retraining Record — No. 156 — Name Mary Smith

Instructor C. B. — Date Started Oct. 12, 1954

Week Ending	Week	Days	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Total Hours	Total Dozens	Total Def.	Hourly Def.
10/23/54	1	5	26	30	31	33	34½			154½		
10/30/54	2	4	34¼	33	0	33	36¼			136½		
11/6/54	3	5	34	38	39	39	36			186		
11/13/54	4	5	35	40	39	38	40			192		
11/20/54	5	5	33	37	38	37	40			185		
11/27/54	6	5	35	40	39	39	40			193		
12/3/54	7	5	36	37	37	38	37			185		
12/10/54	8	3½	35½	24 (Sick)	0	36	38			133½		
12/17/54	9	5	39	37	39	40	38			199		
12/24/54	10	2	37	0	36	13				86¼		
12/31/54	11	5	40	40	40	41	38			199		
1/8/55	12	5	38	40	40	42	45			205		

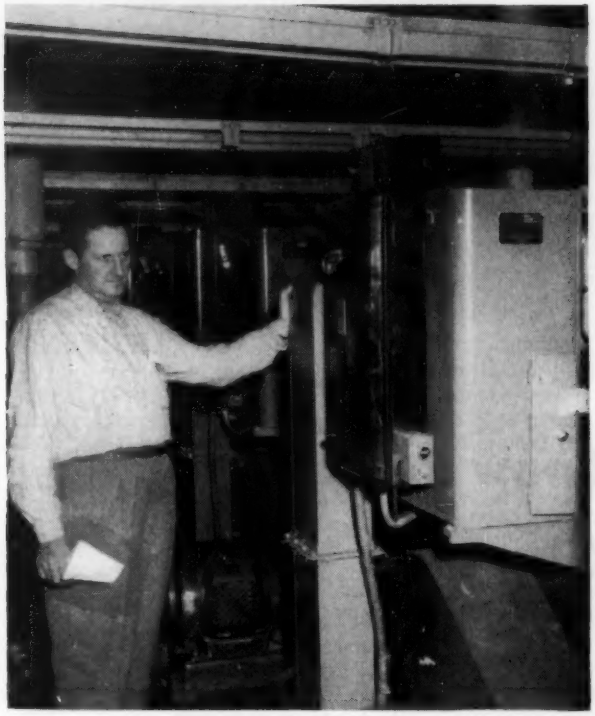
RETRAINEE'S RECORD shows how production has increased from 26 doz. daily to 40 doz. in a few weeks. Figures are kept daily.

LINT-FREE CREELS are an integral part of the new Type LFC Pneumafil. Open construction permits Parks-Cramer overhead cleaners to blow through the frame and around the drafting system. J. L. Adams, superintendent, examines the frame.

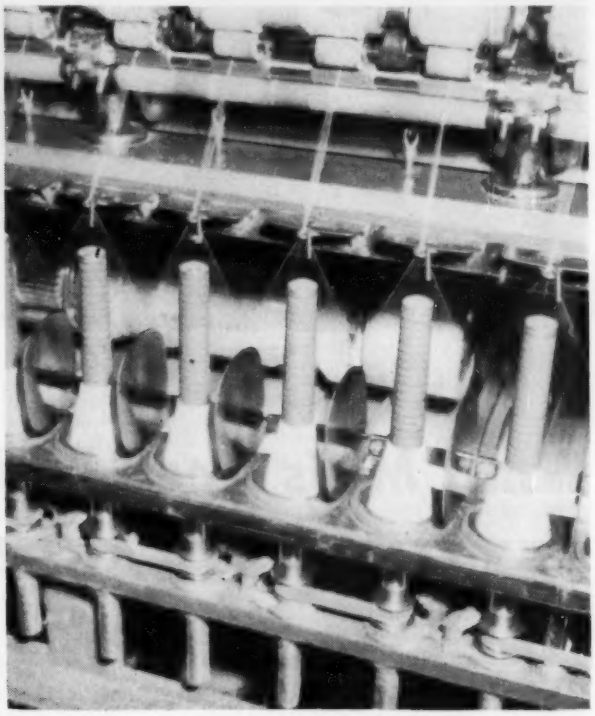
LINT-FREE CREELS
Reduce Cleaning 40%

- Open creels with an airfoil design permit free air circulation from above and beneath the work
- Creels are assembled on the floor with a minimum of work stoppage
- From 22 to 24 frames are connected with each of four central-station air-pumping units

By **WILLIAM G. ASHMORE,** Associate Editor, TEXTILE WORLD



FROM 22 TO 24 FRAMES are connected with each of the four central air-pumping stations. Mitchell Allen, overseer of spinning, has his hand on one of the ducts that runs from the frame through the floor to the pumping station.



UNDERFRAME CLEANING, done with American MonoRail equipment at Beaumont, keeps the lower parts of the frame free of lint. The cleaner is especially useful when the frames are spinning coarse yarns because of the heavy accumulation of lint.

BEAUMONT MILLS, Spartanburg, S. C., reduced cleaning time 40% by installing the new Type LFC Pneumafil with lint-free creels on 94 Whitin spinning frames.

Although overhead blowers and underframe cleaners had been in use for some time in the spinning room, there still was the problem of fly and lint in the air getting into the work and annoying the spinners.

The Beaumont management worked closely with Pneumafil engineers in testing a prototype of the present frame. Experimental work showed that:

1. An open-type creel prevents the accumulation of lint on the frame and permits mechanical cleaners to operate much more efficiently.

2. It is more efficient to build an entirely new creel around the duct system than to install the ducts in a conventional creel. (The only available space for the duct is on the samsons or just above the tapes opposite the idlers.)

When the tests were completed satisfactorily, Beaumont maintenance personnel immediately began changing over the frames at the rate of one to two per day. Work was done on the spinning-room floor with little interruption of normal operations. Labor cost was about $50 per frame.

Airfoil Principles Featured

The LFC Pneumafil features a creel designed on airfoil principles. A minimum of resistance is offered to the air currents from overhead blowers and underframe cleaners. The creel is constructed of polished aero-curved steel and aluminum parts, and there are no flat boards to obstruct air passage at any point.

A rounded header duct directs the air stream past the drafting system and through open, new-type, weight-wire supports. Smooth parallel spans enclose the bobbin-holder bolts and allow the bobbin tapers to be cleaned easily.

No wiping of creel rods or boards, no picking of bobbin tapers, and no wiping of header ducts are expected by Beaumont, since there are no flat surfaces to hold the lint. Slubs are virtually eliminated.

Four Stations Pump Air

The Beaumont installation has four central stations for pumping air. From 22 to 24 frames are connected with each station. Spinning-room space is saved by running the ducts through the floor, over the card room, and out to the fans.

The 256-spindle Whitin frames are 4-in. gauge and recently were equipped to handle 10 ¾-in. paper tubes on a 9¼-in. traverse. Yarn counts range from 8s to 14s for both warp and filling. Roving is put up in a 12x6½ package, and hank roving runs from 0.60 to 0.85.

Warp yarn is spun on a 2¼-in. ring, and 6.5 oz. are placed on the bobbin. Front-roll speed for 11s yarn is 189 rpm., and traveler speed is 5,200 ft. per min.

What Mills Need To Know About— TEXTILE PACKAGING

● With the advent of vast new market outlets for textiles—outlets where impulse buying prevails—mills have the opportunity to package effectively and to substantially increase their sales.

● A wide variety of packaging materials and methods are available to the textile producer, from the handkerchief manufacturer to the blanket producer. This report describes the packaging materials and equipment available and tells how they are being used in mills.

By MICHAEL LONDON, Assistant Editor, TEXTILE WORLD

Part of the answer to textile slumps and chain-store squeezes that plague the textile industry may lie in effectively packaged textile goods. There are now vast new markets for textiles—markets where impulse buying prevails. In supermarkets, drug stores, variety stores, and service stations, attractive packages are selling textile products.

Since retailers are insisting that textiles be packaged at the mill level, mills have the opportunity to hit the consumer with a sales message at the point of sale. It's like sending a salesman with each piece of merchandise.

Mills with established brand names are combining packaging and advertising and getting excellent results in regular outlets such as department stores. And they are selling their secondary brands through mass outlets without hurting the established brands.

All materials sold through mass outlets require a package designed for self-selection. The customer has to see the product inside the package; yet there is no time for removing the contents. These packages must also stand up under rough handling.

Textiles being packaged range all the way from washcloths to blankets and include mill-finished items such as sheets, pillowcases, table cloths, napkins, towels, sweaters, hosiery, piece goods, and curtains.

On going into packaging, a manufacturer is immediately confronted with several problems: Which packaging materials shall he use? Should he use machinery? Should machinery be automatic or semiautomatic? What designs, labels, and markings should he use? Each mill can find the answers to these and other problems by considering the size of the packaging operation, the type of product, and the sales outlet it intends to use.

A TEXTILE WORLD Report to Mill Management

Packaging Materials

The textile manufacturer has a wide choice of materials when he embarks on a packaging operation. There are transparent films, papers, foils, rigid and semirigid plastic containers, rigid or folding paperboard boxes, and corrugated cardboard boxes. His choice should depend on the type and price of the product, its weight, the abuse the package will get on the shelves, and the outlet through which it will be marketed.

Packaging specialists, such as paper and film converters, are the general source for packaging materials. They purchase the plain film or other materials and provide the printing and decorations. These converters supply finished materials such as bags, envelopes, or cut stock used for wrapping or on bag-making machines. They supply other packaging materials such as tags, labels, seals, and inserts. They also provide both a design service for branded merchandise and general stock items such as envelopes designed for stretch hosiery.

Other suppliers of packaging materials are paper-box companies and plastic-container producers, who also design and print packages for specific or general needs.

Paperboard boxes have both functional and aesthetic qualities. The stiffness of paperboard runs from very rigid to very flexible, and the type of container can range from the simplest hosiery box to an intricate, expensive rigid set-up box. Since transparency is a problem, a window covered with transparent material can be used to display the contents.

Corrugated cardboard boxes are strong and take printing and color very well. Many textiles have been merchandised successfully in corrugated cardboard boxes.

A newcomer to textile packaging is aluminum foil. Laminated on paper, foil creates a striking package. All commercial printing methods can be used on foil. It will not dry out or age, and shelf life is indefinite. It has high strength and can take rough handling. The packages can be heat-sealed or sealed by adhesives.

Transparent films are used to package the majority of textile products. The package is relatively inexpensive and attractive, and there are many films to choose from.

Here are brief descriptions of films suitable for textile packaging.

Cellophane

Cellophane is a plasticized sheet of regenerated cellulose. It is a clear, economical film that performs well on high-speed machines. Most cellophane used today is coated to make it heat-sealing. It causes less drag on heated surfaces than most other heat-sealing materials, and it takes color and printing well.

On the other side of the ledger, cellophane becomes brittle and cracks under low humidities. High humidities also affect cellophane badly, especially in automatic wrapping equipment. It has limited dimensional stability; so it should not be used as a window material covering a large surface in a box or carton. Cellophane bags should not be used on products weighing more than 3 lbs.

Cellophane is a satisfactory material for textile packaging because of its economy, clarity, printability, machine performance, and strength.

Polyethylene

Polyethylene belongs to the family of natural gases, lubricating oil, and paraffin. Its high elongation before break makes it tough, although it is not one of the higher-tensile-strength films. Polyethylene is the lightest of the commercially available films; so it is one of the least expensive on a yield-cost basis. Its performance on packaging machinery is fair. Although pure polyethylene does not take printing inks, modified forms are available for satisfactory ink adherence.

One of the drawbacks of polyethylene has been its cloudy appearance. However, it is now being made relatively clear. It is heat-sealing, but its temperature range is very critical and requires care. Continuous exposure to direct sunlight causes some degradation in the film.

The shelf life of polyethylene makes it an excellent packaging material for textiles.

Polyvinyl Chloride

Vinyl film is a clear, tough packaging material. It has excellent resistance to sunlight and ageing. It is readily printed by standard commercial methods and needs no surface treatment. Vinyl heat-seals easily and can also be sealed with adhesives. It has a long shelf life and good abrasion resistance.

There is, however, a problem with static electricity in high-speed machinery that makes static-elimination measures necessary. The limp body of the film requires improvements on the folding mechanisms on some machines.

Many excellent textile packages are being made with vinyl films.

Polyester Film

The newest of the packaging films is Mylar, the polyethylene-terephthalate product. This film is crystal clear. It is also the strongest plastic available today. The film remains smooth, without puckering or shrinking, on a package. It will not deteriorate with age, and it will not become dry and brittle. It can be printed with little trouble, and reproduction is excellent.

The film cannot be sealed with conventional heat-sealing equipment. It can be sealed only with a hot wire or flame-sealing equipment or bonded with adhesives. There is no automatic wrapping machine available to handle polyester film satisfactorily. However, a direct wrap of 50- to 100-gauge film can be applied semiautomatically.

Its strength and clarity give Mylar wide possibilities in packaging textile materials.

Rubber Hydrochloride

Rubber hydrochloride, or Pliofilm, is a transparent material with high elongation, from 70 to over 500%, depending on the type and gauge. Dimensional stability is excellent, and the film can be heat-sealed easily. Pliofilm can also be sealed by adhesives or solvent-sealed. It has high strength and can take severe handling and varying humidities.

Machinery can handle Pliofilm, but the sealing devices should be altered because the heated film cannot be dragged across a stationary heated plate or bar. Sometimes film-transport belts are required to carry soft films over unsupported areas to keep them from dragging.

Its ability to take severe handling and its stability in varying humidities make Pliofilm a good material for textile packaging.

Designing the Package

KNITTED UNDERWEAR is packaged in cellophane bags, attractively printed in black and green. The label showing through the transparent section indicates the size.

BLANKET CARTON has a transparent window that allows the customer to see the blanket without removing it from the carton. Simple copy emphasizes the brand name.

TOWEL SET is packaged in an attractive carton with a pink horse printed on the cover. The carton can be effectively displayed with its lid either on or off.

Together with protecting the contents of the package, the wrapper should promote the sale of merchandise. The design of the package should take into consideration the following points:

1. Nature of the product
2. Materials and form of package construction
3. Production requirements
4. Competition
5. Type of outlet
6. Color
7. Copy, including brand, trademark, and other essentials
8. Illustration and method of reproduction
9. Family design relationships

The nature of the product will largely determine the size of the package and the material going into the wrapper. The outlet through which the material is sold will also affect the type of package. For example, hosiery sold in paperboard boxes in department stores require transparent film wrapping in supermarkets. Heavy materials like blankets require stronger films than cellophane, or they should be packaged in paperboard boxes.

The cost of the item also will help determine the type of package. A high-priced item naturally can be packaged more attratively than a washcloth or dish towel.

The amount of printing on a transparent film package should be taken into consideration. A textile item should be allowed to speak for itself. The arrangement of the contents can sometimes be used to reduce the amount of information printed on the wrapper. For example, the size of the knitted garment on a hanger (label) showing through a transparent part of the wrapper immediately indicates the size.

If the brand is advertised and other products are sold with the same tradename, it is a good idea to use a similar design on all products.

Make Color Talk

Expertly used, color indicates the quality and type of the merchandise. The color should try to express the special characteristics of the contents: cleanliness, elegance, strength, durability, coolness, warmth, etc.

Since there are differences between color preferences of men, women, and children, the color should be aimed at the purchaser. Pastel shades have feminine appeal, subtle hues from medium to deep tones have masculine preference, and children respond to bright primary colors.

Packages with excessive colors are costly and lower the quality of the package. A wool-blanket manufacturer used a carton with a full-color illustration that covered the entire surface of the package. He used seven colors. The excessive colors cheapened the appearance of the package, which resembled a container for a low-quality blanket instead of a high-quality wool blanket. If the designer had eliminated three of the colors, the package would have been attractive and the manufacturer would have saved the price of three extra colors.

Some organizations hire a design consultant to design their packages. Paper and film converters also have design services. With either method, a careful analysis of market conditions is necessary. The package should be designed not only for individual consideration but also for mass display. Each package should stand out as a unit, and the geometrical patterns should emphasize the individuality. Low sales can be indicative of a poorly designed package.

Tags Make Sales

Seals are embossed paper devices that can be used for trademarking, product identification, and point-of-sale advertising. They can give reasons to buy and instructions in care and handling. They can also specify the fiber content and give warranty or guarantee statements.

Seals made from metallic foils provide brilliant effects. The seal should always be attractive, legible, distinctive, and in good taste.

Tags are another item that can be used to advantage. The construction and color of the tag and the cord in relation to each other and the product are important factors.

Attached to sweaters, blankets, and

CELLOPHANE SWEATER PACKAGES show how the sweaters look when worn. The sweater shows through a transparent window. Lines and buttons are sketched on the transparent area.

other textile products, a well-designed tag will do its part of the sales job. There are a number of devices for attaching the tag to the package. One type has a clasp built into the tag. Tags can also be attached to the fabric through slots.

Tag stock should have the following features:

1. A smooth finish adaptable to high-grade printing and to imprinting, stamping, or writing with ink or pencil
2. Color brilliance and shade uniformity
3. Adequate stick strength

Tags can have special finishes. Lacquering over the tag surface after it has been printed greatly improves the apperance. One or both sides can be lacquered.

Tags should contain the selling message—short but effective. When the shopper starts to read, the tag has 1 min. or less to do the job. So the copy should be as simple as possible.

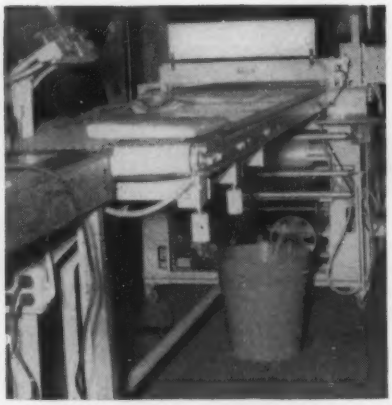
Labeling machinery is available to manufacturers who need this equipment. Speeds run as high as required, and type changes in modern equipment are easy to make. The machines print on labels or on the containers themselves. Data such as quality, size, and lot number can be imprinted by these machines.

Converters furnish seals, tags, and labels. The manufacturer can order a stock of labels already containing size and fiber-content information. The converter also supplies U-boards and inserts, plain or printed.

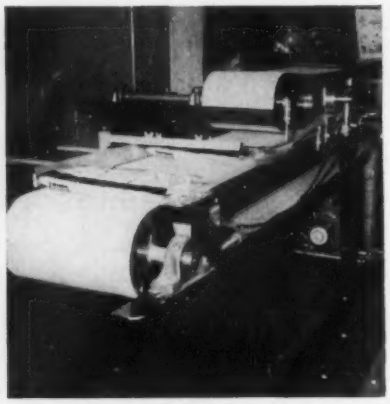
CHEESECLOTH is packaged in a carton exactly 18 ins. long to allow the number of folds to indicate the required yardage. Attractive design emphasizes brand and product name.

SHEETS are wrapped in transparent film on an automatic wrapping machine, two sheets per package. The printed material is displayed on a U-board or printed directly on the film.

BAG-FILLING MACHINE speeds up packaging. Bags fit into a tray, and an air current fills the bag on the top of the pile and opens it for easy insertion of the item being packaged.



SEMIAUTOMATIC PACKAGING MACHINE uses a conveyor that stops intermittently to allow hand-folding of the package. The machine automatically cuts and positions the wrapper.



PRESSING AND SEALING MACHINE will handle any type of wrapping material or envelopes that can be sealed by heat. The machine is applicable to a wide variety of textile materials.

Packaging methods range from hand-packing in sheet film, film bags, or paperboard boxes to machines that wrap, seal, and label materials automatically on a conveyor system. The type of operation should be determined by volume requirements and the type of product packaged.

About the most simple operation is hand-packing boxes, film bags, and envelopes or hand-wrapping in sheet film. The items are often folded and pressed as they move on a conveyor system. At the end of the line, girls put the folded items individually into a tray. The film bag fits over a shallow end of the tray and allows the girl to insert the item quickly and easily. Or, when sheet film is used, a team of three girls packs, folds, and seals the package.

Bags can be bought prefabricated or formed at the mill from plain or printed web or tubular film stock on bag-making machines. Roll stock, of course, costs less than bags. Machines are available to make a wide variety of bags. One machine inserts a string in the top to keep it from tearing or stretching. Another has a plate to keep the bag mouth open and facilitate filling.

Attachments perform specialized functions, such as band or label application.

Paperboard boxes can also be bought prefabricated or as blanks to be formed into folding boxes at the mill by a machine. One machine produces up to 60 hosiery boxes per minute.

Machine Speeds Bag Filling

A machine to speed up the hand-filling of bags has been developed. Film bags fit into a tray on the machine, and an air current fills the bag on the top of the pile and opens it for easy insertion of the item. The items slide into the bag through a horn, which is interchangeable to accommodate different sizes. Special accessories are available to speed up specific operations.

A rotary machine has also been designed for bag filling by hand. On this machine, one girl puts bags on the bottoms of a series of horns while another inserts the material in the bags. The second girl pushes the filled bag into a receptacle below the horn. The horns and the receptacles rotate together. When the receptacle reaches an outlet, the bag is heat-sealed and drops out of the machine.

Machine Eliminates U-Boards

Another system for semiautomatic packaging uses a conveyor that stops intermittently to allow hand-folding of the package. The machine can use any film in sheet form.

Four operators are required for wrapping the package. The machine automatically cuts and positions the wrapper. The first operator places the item on the wrapper. As the conveyor moves intermittently, the second operator pulls the wrapper tight around the material and steps on a foot pedal to heat-seal the bottom seam. The third and fourth operators complete the end folds on either end of the package and seal them by stepping on foot pedals.

The machine paces the operators automatically according to its speed. It eliminates torn packages caused by automatic equipment and does not need stiffening material such as U-boards.

More-automatic machines are also available. One machine forms a tube of film and wraps it around the item. It cuts and seals the film automatically. Another operates by wrapping the item in a pouch formed by two separate webs of film. The package is sealed on all four sides, and operation is completely automatic.

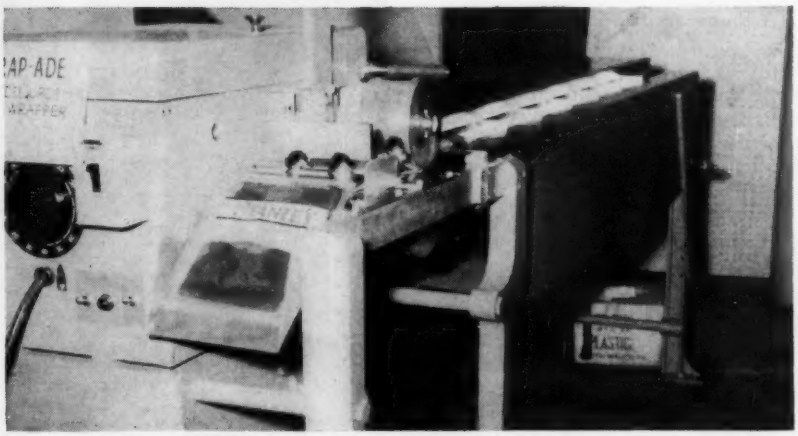
Envelopes made from transparent films or foil are also used for textile packaging. Envelopes are actually flat bags and can be purchased from converters or made on machines. They are handled like bags.

Other machines for wrapping and sealing textile items use variations of trays and conveyors. Each has its use under particular circumstances.

Sealing Methods Vary

Packages can be sealed in a number

HEAT-SEALING MACHINE closes the ends of envelopes used for packaging hosiery, underwear, gloves, etc. The machine will seal packages up to 42 ins. long at the rate of 20 packages per minute.



AUTOMATIC MACHINE seals material in a pouch formed by two separate webs of film. As items move along a conveyor, they are covered by the film, and the package is sealed on all four sides.

of ways. The simplest is a hand application of cellophane tape. Here the girl merely folds the top of a film bag over and applies the tape. The process is relatively slow but is satisfactory for plants with small output.

Films and foils can also be glued or heat-sealed by hand or automatic machinery. Heat-sealing is a fusion of two compatible thermoplastic surfaces. Materials like cellophane, which cannot be heat-sealed, can be coated with a thermoplastic lacquer and then heat-sealed.

The correct sealing cycle for the material being sealed should be taken into consideration. Heat-sealing machinery falls into these categories:

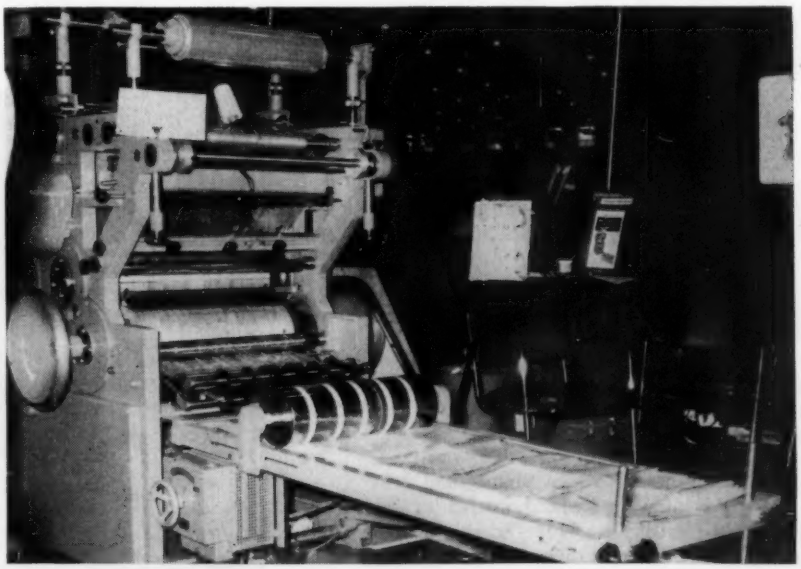
Roller, band, jaw, electronic or high-frequency bar or roller, and impulse types. Each produces a different type of seal suitable for a particular film and product being packaged.

The rotary sealer with a fixed preheater is frequently used for cellophane, and the roller surfaces are sometimes crimped. The band type has endless metal bands that carry the material through heating jaws, pressure rolls, and cooling jaws. In the jaw type, the material is pressed between two heated jaws. This type of sealer is used for cellophane. The electronic or high-frequency type seals the material by high-frequency current passed through the material between two electrodes. The material is in a jaw. In the impulse type, the material is placed between two cold jaws. A wire that gets a quick impulse of current supplies the heat. After the impulse, the material cools between the jaws. This seal is generally used for sealing unsupported thermoplastic films.

The basic parts of the heat-sealing cycle are temperature, pressure of the heated surfaces, length of time of application, and cooling time. When any of these factors are overlooked, there is danger of a poor, unsightly seal.

A great number of mills are using hand heat-sealing methods. The operator passes the folded end of the bag over a hot plate or between two heated jaws.

The heat-sealing units can be used independently or as part of an automatic wrapping operation.



BAG-MAKING MACHINE makes a variety of tear-resistant bags. The machine inserts strings in the top of the bags to keep them from tearing or stretching. The unit produces from 10,000 to 20,000 bags per hour.

How Mills Are Packaging

Knit Goods

A knitwear manufacturer selling to chain stores found himself squeezed badly in a period of low prices. For better control of the price of his merchandise, he set up a packaging program and promoted his brand through trade and consumer advertising.

He hired the services of a design consultant and came up with an effective package. At present, the mill is packaging a wide variety of items, ranging from undershirts to men's pajamas. Here's how this mill does it:

Printed cellophane rolls and prefabricated polyethylene bags are purchased. The package consists of merchandise sealed in bags. The hanger, or label, shows through an unprinted area to indicate the size of the garment.

The mill makes its own bags from printed cellophane on a bag-making machine run by one operator. The bags are then filled and sealed by hand or on a rotary filling-and-sealing machine.

Two girls work as a team in the hand operation. The first fills the bags, which fit on the end of a scoop that allows the items to be easily inserted. The second girl heat-seals the bags on a heated plate. Another team consists of a very fast operator who uses no scoop to help fill the bags and another girl who seals the bags on a hot plate.

ROTARY FILLING-AND-SEALING MACHINE requires three girls; one places the bags on the horns, another fills the bags and pushes them down into chutes, and the third boxes the sealed packages.

The rotary machine requires three girls. One places the bags on the horns, another fills the bags and pushes them down into chutes, and the third boxes the packages as they are delivered sealed at the end of the cycle.

The manufacturer is offering a wooden display case to retailers under certain conditions. The display case is for the primary established brand. He is also offering a secondary line, attractively packaged, to the mass outlets.

So far, the results of the packaging operation have been excellent, and reorders are proving the effectiveness of packaging.

Towels

A towel manufacturer is packaging 10% of his output in cellophane bags and sheets. Although this operation is basically hand-packing, he is looking for machinery that will lower his packaging costs and yet be in line with his output.

The mill packages towels individually and in sets. Printed cellophane bags are used for the most part. Gift sets of towels are wrapped in cellophane sheets. All packaged items except washcloths, which are packaged six at a time, contain inserts.

In the bag-packing operation, one operator places the cellophane bag over the shallow end of a homemade horn and fills the bag. Five horns are available for different sizes. She then folds and seals the end of the bag over a heated plate.

A team of four girls wraps sets of

HEAT-SEALING is done by hand after the bags are filled on horns. The operator has folded the end of the bag and is sealing it on a heated plate.

six towels in printed cellophane sheets. The first girl prepares the towels to be packaged and encloses the insert; the second puts the items on a cellophane sheet, folds the sheet, and heat-seals it lengthwise over a hot plate; and the third and fourth girls each fold and seal an end.

The sales manager of this mill considers packaging highly profitable and believes the packaging program will be expanding more and more.

Sheets

A large sheet manufacturer uses two automatic machines, each producing 1,000 packages per hour. The sheets move along a series of conveyor systems, where they are sprinkled and pressed, separated according to brand names, and packaged automatically in a plain or printed vinyl wrapper. Before the sheets reach the packaging machine, girls separate the sheets in pairs and insert U-boards. The U-boards contain the brand name and information about the product, or they are plain when printed film is used.

The wrapping machines have electric eyes to position the designs accurately on the package. One man places the pairs of sheets on the feed apron, another operates the machine, and the third removes the wrapped and sealed sheets and places them in bulk cartons. The package is highly uniform and attractive.

This manufacturer also packages pillowcases and diapers in transparent film. Another automatic unit packages the pillowcases, and a semiautomatic machine is used for the diapers.

The diapers move on a conveyor, where they are wrapped and heat-sealed by three girls. The first girl places a stack of diapers in position to be wrapped. The machine wraps the stack and heat-seals the top of the package.

The package then moves on a conveyor to another girl who presses one end against a heated plate to heat-seal the end. The third girl heat-seals the other end of the package.

HAYSSEN AUTOMATIC MACHINE produces 1,000 packages per hour. One man places pairs of sheets on the feed apron, another operates the machine, and the third removes the wrapped and sealed packages and places them in bulk cartons.

Keep Costs Low

Standardization in packaging will reduce costs, possibly below handling unpackaged products. A good packaging program will improve efficiency and lower costs in handling, warehousing, order-filling, and shipping.

An important factor is the adoption of a standard package that holds all styles, sizes, and types of material that the manufacturer produces. When such standardization is impossible, the number of different packages should be cut to a minimum. Standardization eliminates the necessity for hand operations and reduces the job of checking merchandise at the mill.

An obvious step in cost reduction is the proper use of conveyors. For both hand and machine packaging, this form of handling can be used to advantage. The use of conveyors is possible from the time the material first enters the packaging department to the time the packaged items are resting in the shipping room.

Preventive maintenance of automatic machines is an important factor in keeping costs down. Since most automatic machines are a complicated combination of levers, cams, links, and moving parts, timing and adjustment are highly important.

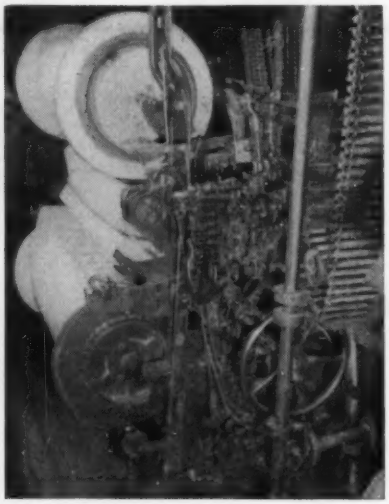
An excellent method of keeping the machine adjusted lies in making a chart when the machine is first set. The chart should be revised until the settings for best operation are procured. The chart can then serve as a standard for operating control.

It should be recognized that lubrication of packaging machinery is as vital as lubrication of manufacturing equipment. A schedule should be drawn up for oiling the equipment, whether it is done by oilers or by the operators.

To be properly maintained, machines must be cleaned regularly. The machine manufacturer can probably give the best advice about the cleaning methods to follow.

Instead of a periodic overhauling, it is more economical to set control standards with tolerances for wear on the various machine elements. When lost motion begins to affect the operating efficiency, the worn parts should be replaced.

UPHOLSTERY FABRIC on a C-4 loom is a combination of several fibers. The weaver fills his own magazines and operates eight looms.



TERRY CHECK is woven on a C-5 loom with a terry attachment and a double multiplier. The pattern chain for the harness pattern almost reaches the ceiling.

How One Large Mill
WEAVES FANCY FABRICS

● Nine types of looms are used to weave scores of fancy patterns. However, the wide assortment of looms and cloth styles isn't confusing. A well-organized and well-managed weave room lends itself to straight-line methods for high over-all efficiency.

By RICHARD B. PRESSLEY, Associate Editor, TEXTILE WORLD

THE FABRICS woven at this North Carolina mill are about as fancy as you'll find. The fabrics can be loosely broken down into three general groups: (1) terrys, including white, multicolor checks and stripes, and novelties; (2) decoratives, including drapery, automobile upholstery, and furniture upholstery; and (3) apparel, which includes carded- and combed-cotton gingham and shirtings and spun-rayon suitings and dress goods.

The decorative and suiting materials are woven from a combination of several fibers; for example, cotton, rayon, acetate, nylon, Orlon, Dacron, and Lurex.

The fabrics are woven on 1,306 looms divided into nine types ranging from single-shuttle looms to seven-shuttle pick-and-pick looms. The looms are equipped with several kinds of harness motions, including cam motions, jacquards, dobbies, and Knowles heads. The harness capacity varies from 4 to 20.

On a large number of looms, the styles are so complex that the pattern chains reach to the mill ceiling. Multipliers for the box chains are used on two models of looms; C-3 looms have single multipliers, and C-5 looms have double multipliers.

Looms Are Versatile

The breakdown of looms by number and loom type is 200 78-in. C-4 4x1 looms convertible to pick-and-pick, running at 128 ppm., and equipped with 20-harness Knowles heads; 200 56-in. C-5 20-harness-dobby looms weaving at 152 ppm.; 100 50-in. C-5 dobby-equipped looms running at 152 ppm.; 200 64-in. 20-harness-dobby Stafford looms weaving at 134 ppm.; 130 44-in. Stafford looms with 16-harness dobbies running at 150 ppm.; 352 40-in. C-3 20-harness-dobby looms running at 150 ppm.; 100 C-3 47-in. 16-harness-dobby looms weaving at 142 ppm.; 10 50-in. C-5 looms with No. 640 jacquard motions weaving at 140 ppm.; and 14 C-5 50-in. looms with four-harness cam motions running at 152 ppm.

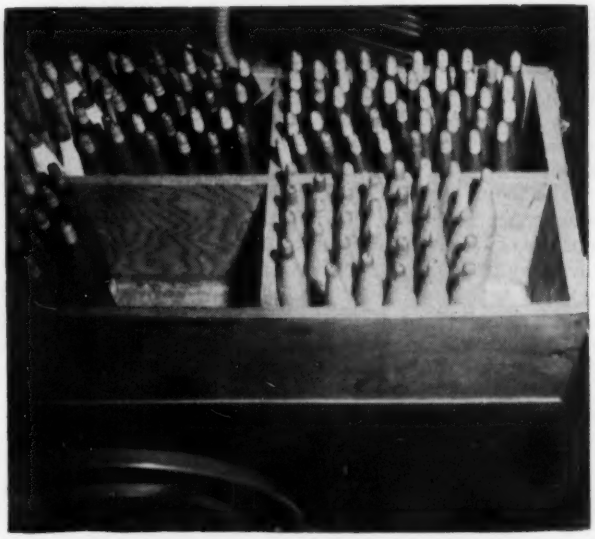
All multishuttle looms are C&K; single-shuttle looms are Stafford.

The styles of cloth are laid out in the weave room so that all similar styles are grouped together on the same weavers' sets of looms. For example, the following fabric constructions are grouped this way: (1) 12 to 18 looms per weaver on C-5 looms weaving gingham or shirting, (2) 8 looms per weaver on upholstery fabrics on C-4 looms, (3) 14 looms on suitings on C-4 looms, and (4) 18 to 20 looms on cotton fabrics on C-3 looms.

Weavers Fill Magazines

With all these loom layouts, the weavers fill their own magazines. As a rule, weavers fill the magazines on all filling yarn numbers between 17.5s and 35s and on all suiting materials where it's important to prevent

FILLING-STORAGE AREA is designed to prevent filling run-outs and mixed filling. The filling is stored at the end of the weave room for proper humidification.



CLEAN FILLING, free from damage, is insured by four-section storage boxes at each loom running multicolor filling. The portable boxes are filled at the storage area.

mixed filling. The superintendent of weaving says: "Our weavers fill their own magazines on our checked patterns and fine yarns. The weavers take great pains in preparing the filling and in placing it in the magazine. The results are fewer filling breaks and less mixed filling. Although weaving costs would appear to be higher, we're really saving money with the setup."

On other styles of cloth on single-shuttle looms, batteryhands fill the batteries. Here, the weavers operate 20 to 24 looms.

All warps at the mill are replaced by tying-in men or warp men; the loomfixers don't tie on any warps. Loomfixers' jobs are 45 looms on C-5 looms, 44 on C-3 looms, 36 on C-4, and 43 on single-shuttle looms.

Supervision Is Adequate

The entire weave room is headed up by a superintendent of weaving. The 1,306 looms are located in three weave rooms, and there's a general overseer of weaving for each weave room.

One weave room contains 806 looms. The general overseer of weaving on this job has an overseer on the second shift and one on the third shift under his supervision. Then there are three second hands on each shift. One second hand has 254 looms, one has 280, and one has 272.

Another general overseer of weaving has 200 C-4 looms in his weave room. There's a second hand on the first shift, an overseer and a head loomfixer on the second shift, and an overseer and a head loomfixer on the third shift.

The general overseer of the third weave room, which contains C-5 looms, has 300 looms. He has a second hand on the first shift, an overseer and head loomfixer on the second shift, and an overseer and head loomfixer on the third shift.

The C-4 and C-5 loom weave rooms are equipped with evaporated-water air-changing systems. The temperature is kept at 80 to 82° F. The relative humidity is controlled at 3 to 5% lower than the temperature reading. For example, if the temperature at a given time is 81° F., the relative humidity is 76 to 78%.

Overhauling Pays Off

To keep looms in good mechanical condition, the weave-room supervisors recently started a loom-overhauling program that's giving good results. The first looms overhauled are a group of C-3 looms, one of the oldest models in the mill.

Warp men do the overhauling work on days when the loom-warping schedule is light. Therefore, no extra labor or special labor budget is required for the work. The labor cost per loom is not kept.

To begin the overhauling program, four looms were torn down and rebuilt from the floor up. Beginning with the rocker shaft and continuing through the main shafts all the way up through the dobbies, all the main motions of the four looms were rebuilt. New parts from the supply room were used to rebuild the looms.

The worn parts from the first four looms were rebuilt in the mill machine shop, and now all parts are rebuilt in a cycle as they're removed

CONTINUED ON PAGE 84

PRODUCTION IMPORTANCE is pointed up by a lighted transparent bulletin board in each weave room. The shift with the highest daily production is shown in lights.

from the looms. The parts costs for overhauling the first four looms were (1) $44.61, (2) $23.84, (3) $26.80, and (4) $28.90. Now that many rebuilt parts are used to repair the looms, the average cost is $15 per loom.

The looms are overhauled by loom number straight down the alleys. The cloth isn't doffed at the cut mark on the second and third shift when a loom is to be overhauled. The pattern is lifted out on the first shift, and the loom is cleaned thoroughly. Then the loom is overhauled.

The loom overhauling program is working out so well that all looms will eventually be rebuilt as they need it.

Controlling Quality

Just good straight management practices are used in the weave room. Typical production and quality records for a week are 87.27% efficiency and 3.45% seconds.

All cloth graded second quality in the gray inspecting room is returned to the weave room and shown to weavers and loomfixers.

Seconds reports for weavers are posted each day. Weavers inspect the cloth on each loom with a flashlight twice every day.

An over-all system is used to prevent common fabric defects. For example, filling bands are eliminated by matching the filling for shade when it's doffed at the quillers. All lots of filling yarn are marked all the way through the yarn processing and are kept together.

Then the doffed bobbins of each lot are separated and matched under a light at the quillers so that the shades will not vary.

Filling matched by this method has two identifying marks, one for the filling lot and one to show the shade. For example, a blue mark would show the lot number and a yellow mark would show the shade group.

Patterns that tend to make excessive filling bands are woven on multi-shuttle looms, and all filling of one color is run 2x2 in the shuttle boxes.

Slack and tight selvages, other common defects, are prevented by weaving tape selvages. But on extremely slack or tight selvages, semi-tape selvages usually give better control.

On twill or heavy suitings, selvage control is often improved by continuing the twill weave through both selvages.

Other defects, such as reed marks, are almost entirely eliminated by repairing the reeds closely when warps are cut out and by over-all loom settings.

Humanics — **A TW Brief**

Beatitudes for the Supervisor

1. **Blessed is the supervisor who learneth early that his pay above a certain point will be roughly in direct proportion to his influence on people. The wise man heedeth this fact, but the fool passeth on to frustration.**

2. **Blessed is the supervisor who learneth that man craveth to be treated as "somebody." The wise heedeth this rule also and gaineth much therefrom.**

3. **Blessed is the supervisor who giveth all men a square deal in all things whatsoever, but woe unto him who giveth it not.**

4. **Blessed is the supervisor who is wise to the fact that man thirsteth for the cool waters of friendship and kindness and rejoiceth much when he receiveth them.**

5. **Blessed is the supervisor who hath character, whose word is his bond, who doeth right as he seeth right—come hell or high water! He maketh the Golden Rule a guide to his daily conduct—much to his own advantage.**

6. **Blessed is the supervisor who knoweth the meaning of loyalty to his company and to his employees—all up and down the line. They will lift him up.**

7. **Blessed is the supervisor who developeth men. They shall honor him and make him happy.**

8. **Blessed is the supervisor who avoideth a fight unless it is for justice. He shall avoid it then, if possible. As a last resort he shall gird his loins and slug mightily. Men will tell their children of him and will speak proudly of him after he is gone.**

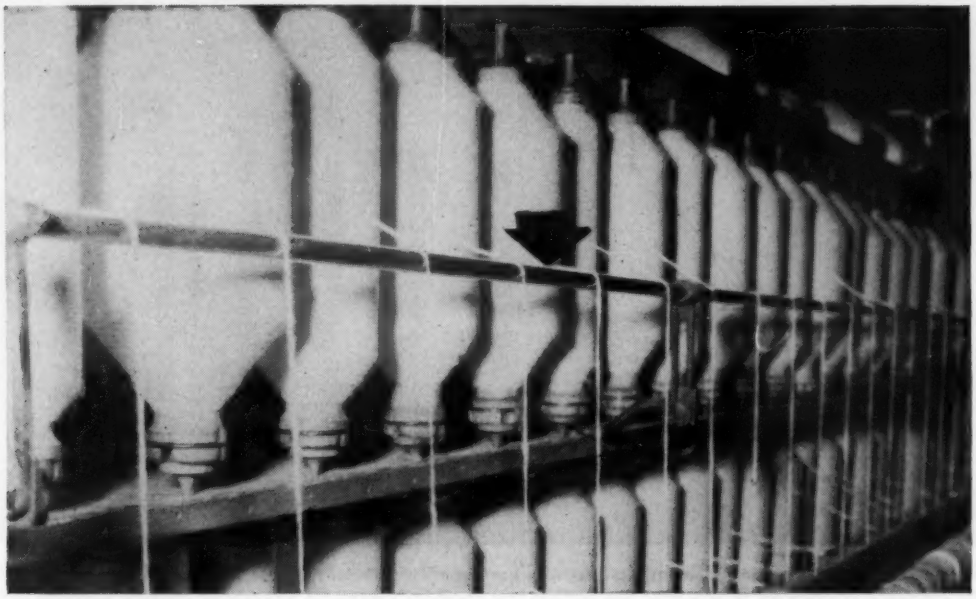
9. **Blessed is the supervisor who is big enough to apologize to any human being he hath wronged.**

10. **Blessed is the supervisor who shunneth expedience as a plague; who joineth not cliques, but dependeth on merit for advancement; and who promoteth others on a basis of merit alone.**

11. **Blessed is the supervisor who pursueth not success so ambitiously that he faileth to get happiness out of the adventure of living. Such a man getteth happiness out of the ordinary things of life and giveth much happiness to others.**

12. **Blessed is the supervisor who taketh not himself too seriously, who keepeth his sense of humor, who laugheth often, even at himself, and who expecteth not too much of himself or others. He shall not enter the psychopathic ward during all the days of his life.**

—Author Unknown



PLASTIC TUBING is inserted over the metal creel rods (arrow) that rapidly corroded and collected lint. The creel-rod brackets are bored out to take the tube.

CREEL-ROD COVERS
Solve a Spinning Problem

● Since fitting plastic tubing on spinning-frame creel rods, Newberry Mills has experienced fewer ends down, fewer roving breaks, and fewer cleaning chores

By JAMES H. BLORE, Associate Editor, TEXTILE WORLD

In September, 1954, Newberry Mills, Inc., Newberry, S. C., started to fit plastic tubing on spinning-frame roving rods to combat the drawbacks of the original rods. The covers, made by Gladwin Plastics, Inc., show no signs of wear; and they are helping to produce better yarn and give higher production.

Cleaning the steel creel rods on the spinning frames was one of the spinners' routine cleaning chores, but now the job rarely needs to be done. The rods were formerly polished with metal cleaner during the annual overhaul of each frame, but the rods soon became pitted with corrosion.

The corrosion was more apparent underneath the humidifiers, and the rough surface resulting from the corrosion caused lint to stick to the rods. The surface became so rough that even the traveling cleaner would not dislodge the lint although one of the air jets was aimed at the rod.

The rough surface also caused lint to be plucked from the roving to cause thin places in the yarn or break-backs of the roving. The fibers, plucked from the roving, accumulated on the rod until they were pulled into the roving to form a gout in the yarn.

Wooden rods also became splintered and rough and collected lint to cause spinning troubles.

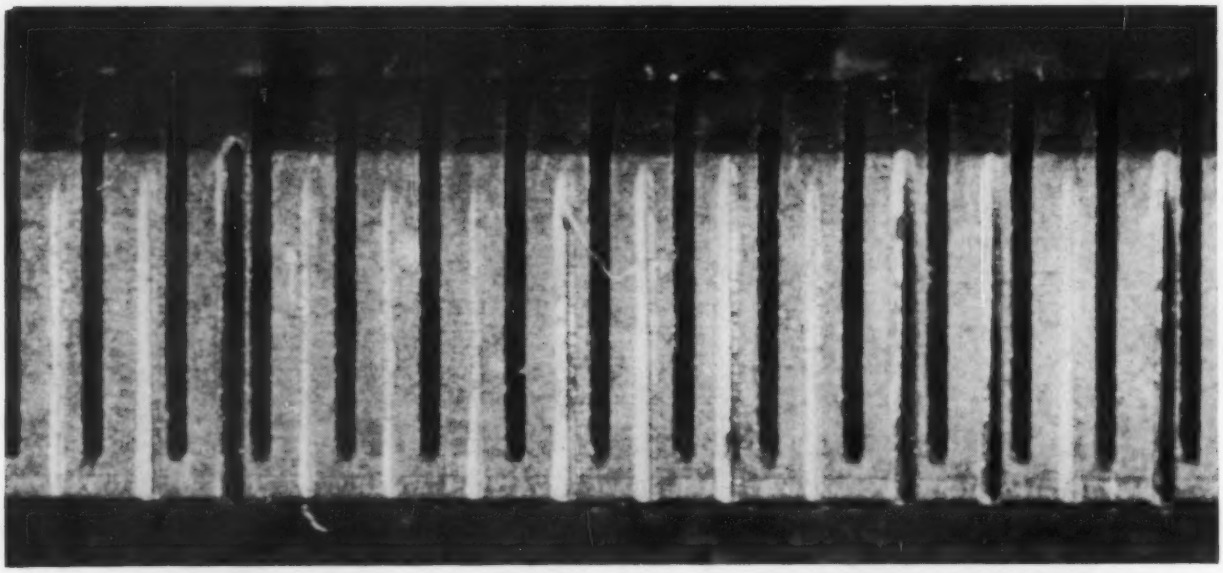
Plastic tubing, with ¾-in. internal diameter, is slipped over the wooden rods to relieve this problem. The steel rods use ½-in.-dia. tubing.

Although the modification takes less than an hour to complete, the installation is done while the frame is overhauled. Newberry Mills has a maintenance program to overhaul every spinning frame once each year; and so far, about 22 frames have been equipped with the tubing.

The tubing arrives at the mill in 15-ft. lengths and is cut to suit the length of the frame. The joints at the ends of the tubing are positioned so that they are between the roving bobbins where roving is not likely to contact the joint as it runs over the rod.

The creel-rod brackets are removed and enlarged to the external diameter of the tubing. The rod is slipped inside the tubing, and tubing and rod are replaced in the brackets.

The mill uses 10x5-in. roving bobbins and spins 42½s filling yarn from 2.00-hk. roving. Warp yarn is 30½s made from 1.80-hk. roving. Casablancas system is used on Whitin frames and the Roth system on Saco-Lowell frames.



EXCESSIVE WEAR on presser edge is caused by mineral deposits accumulating between the needle beard and the presser edge. The water used in this mill contained 20 parts per million S_iO_2. The damage could have been prevented with regular cleaning schedules or treated water.

Keep Mineral Deposits From FULL-FASHIONED MACHINES

● Water used in hosiery mills contains harmful minerals that wear out machine parts and cause faulty work. These minerals can be kept from accumulating by regular cleaning schedules or by water treatment.

By DR. J. H. QUINN, Reading Testing Laboratories, Inc., Reading, Pa.

WATER used in full-fashioned hosiery knitting plays a significant role in quality production. The connection seems remote; but when water is recognized as a carrier of dissolved solids, the relation becomes more obvious.

Many minerals and salts are soluble in water. In the long path from natural springs in the earth to the hosiery mill, the water comes in contact with many salts and minerals.

These dissolved salts in mill water affect knitting machines and the quality of the fabric when evaporation takes place. As the water evaporates, the solid salts remain on the machine as a residue and are visible as a white coating. The amount of dissolved minerals and salts in the water is proportionate to the deposit on needles, sinkers, and other parts.

The principle objection to these deposits is the abrasive wear they produce when lodged between contacting metal surfaces. If these deposits are present between the needle beards and presser edges, needle-beard and presser-edge wear results.

Deposits Cause Press-Offs

When they adhere to the edges of sinkers and dividers, the edges become rough to cause cuts and press-offs. Pull threads and enlarged loops also result from the uneven flow of the yarn over the rough machine parts with the consequent production of inferior fabric.

Abrasive wear is determined by the dissolved salt present. If silica is deposited, abrasive wear is almost certain to develop. If calcium hydroxide is deposited, wear will be negligible as it is not abrasive to brass and steel parts.

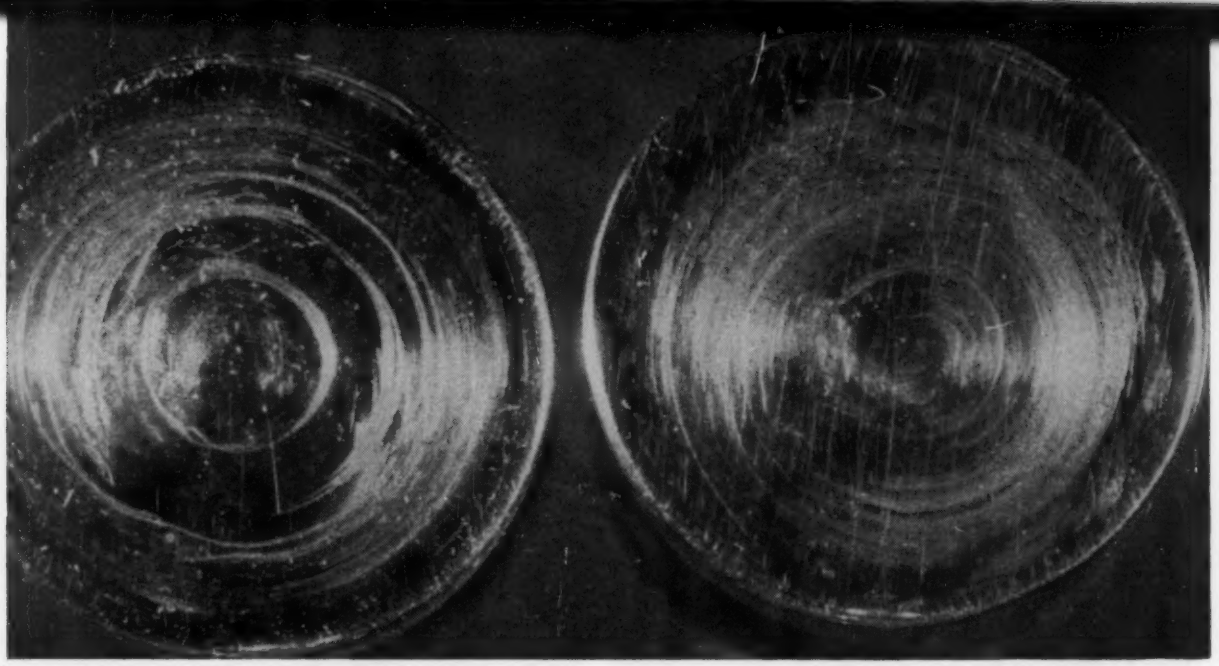
The problem is further complicated by the difficult removal of the deposits once they have accumulated on the parts. There are no solvents, for example, for silica. Physical removal by buffing is the only recourse for the mill with these permanent accumulations on machinery parts.

Lubricants tend to hold the deposits in the knitting area and decrease their lubricating efficiency to reduce abrasion. The simplest and most economical method of preventing the mineral salt deposits is by thorough and frequent cleaning with commercial needle cleaners.

Cleaning Prevents Deposits

Mills with adequate cleaning schedules will not experience these mineral-salt deposits, as they are constantly flushed from the machine. On the premise that it was no longer necessary to remove PM-90 size build-ups in knitting unsized yarn, regular cleaning schedules were discontinued in some mills. Mineral salt deposits appeared on the machine to result in abrasive wear.

Hard silica deposits were the chief



MINERAL DEPOSITS from water of 120 parts per million hardness and 20 parts per million silica caused this damage to the brass disks cut from sinker heads. The wear shown in the picture resulted from 30 secs. rotation between the two disks.

offenders in these cases. The silica adhered to the needle shanks and the edges of dividers and sinkers. When pirn yarn was run for six months, deterioration of the presser edge could be detected. The hosiery became inferior. Outstanding complaints were uneven heels, bad length control, and poor seaming.

If proper cleaning schedules are maintained, buffing can be eliminated. The machine will be constantly rinsed to prevent the salts from adhering to the parts and lodging in oil and grease residues. Cleaning also removes other contaminants that impair quality knitting, such as size accumulations and impurities that are held in the knitting area on a machine treated only with lubricants.

Metal attacked corrosively is all the more vulnerable to abrasion, and commercial cleaners help protect against corrosion.

A Good Cleaning Method

Here's a good method of cleaning. When the machine is in operation and the dividers are in the forward position at the start of the welt:

1. Apply the needle cleaner with a soft brush to the sinkers, needles, dividers, knock-over bits, and narrowing fingers.
2. Knit one set.
3. Apply needle oil to the parts that are cleaned on the second set.

The cleaning should be done once each shift.

Apply the cleaning solvents on the second-to-the-last set before shutting the machine down for the week end or indefinite periods. This procedure will prevent the hardening of deposits on machine parts, which makes starting up difficult. Apply needle oil on the final set.

Another approach to the problem of removing dissolved mineral salts is by water treatment, which removes harmful salts from the water before contact with the machine.

The treatment most commonly used is water softening, which is beneficial only for the removal of calcium carbonate. Calcium carbonate is the mineral salt found in greatest abundance as a dissolved mineral salt in water.

When combined with fatty acids that are present in some oils and cleaners, calcium carbonate forms insoluble deposits that are extremely hard to remove. Water softening is essential if the hardness is over 100 parts per million. Calcium carbonate is not abrasive; but if the needles or presser edge have been attacked by corrosion, calcium carbonate tends to accelerate wear.

Mill-water treatment also includes distillation and demineralization. Distillation is the simple process of converting water to steam and condensing and collecting it in another container to leave the dissolved solids behind. The dissolved solids are heavier than water and cannot be carried into the gaseous stream.

Water that has been distilled is incapable of forming residual deposits. Mills that use distilled water in machine maintenance report superior knitting and the reduction of costly part replacements.

Boiler condensate water from clean piping systems can also be used because it has received the same salt-removing treatment as distilled water. Boiler condensate and distilled water are likely to be slightly acidic, but this factor is compensated for when the water is combined with commercial trough solutions and cleaners.

Demineralization also purifies water, but the dissolved salts are removed chemically.

A mill considering water treatment should have the hardness of the mill water determined first. If over 100 parts per million are present, water softening should be undertaken. Before undertaking the expense of further water treatment, the water should be tested for the amount of solids contained with particular reference to the abrasive silica.

Water with over 10 parts per million silica should be distilled or demineralized, and water with total solids of 150 parts per million should be distilled.

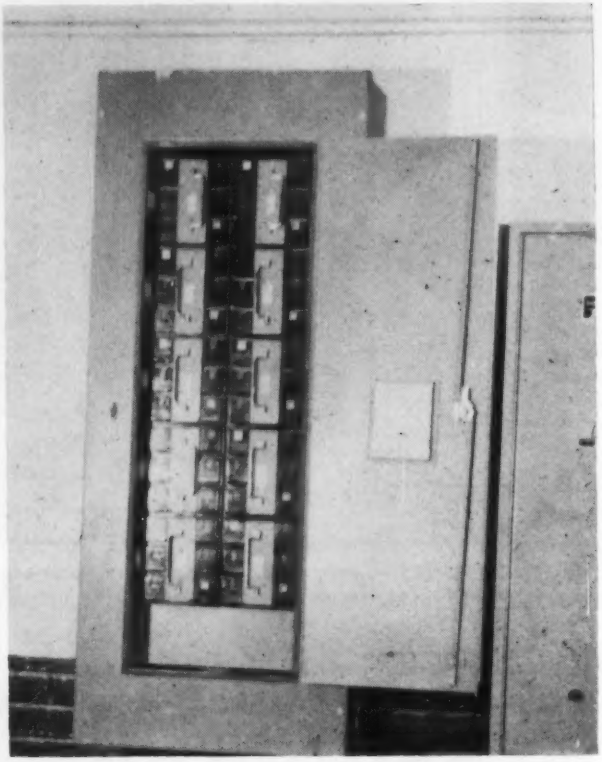
Don't Treat Needlessly

Although all three types of water treatment improve quality and reduce abrasive wear, they are often undertaken needlessly.

Mill water that has performed satisfactorily for a period of years is unlikely to abruptly change in chemical composition and cause deposits on the machine. For this reason, all mill maintenance procedures should be checked prior to starting a water investigation.

A combination of a once-per-shift cleaning schedule and the use of distilled water will eliminate all possible harmful effects of mineral deposits.

THREE CONTROL STATIONS distribute power to 210 X-2 looms. Each station serves 70 looms.



BRANCH-CIRCUIT PANEL has 10 conduits running to a total of 70 looms. Each conduit furnishes power to seven looms along its route.

ELECTRIC-WIRING System Requires No Maintenance

● Low initial costs of the electrical-distribution system at this cotton spinning and weaving mill, plus 4½ years of operation without maintenance, make this electrical installation an ideal pattern to use when new machinery is added to an old building

By **RICHARD B. PRESSLEY,** Associate Editor, TEXTILE WORLD

THE PROBLEM of installing electrical equipment and wiring for new machinery located in an old mill building has been solved at Hartwell Mills, Hartwell, Ga., where new looms were started in Jan., 1951. During more than 4½ years of operation, there have been no electrical maintenance and no power interruptions except short normal shutdowns from lightning surges during electrical storms.

The test at Hartwell is pretty severe for loom starters and conduits because there's more than a fair amount of floor vibration even though the looms are placed on mounting pads. Take 210 40-in. X-2 looms, place them on an old wooden floor, and run them at 192 ppm., and there's bound to be a lot of vibration. But all the electrical equipment is holding up well without any maintenance.

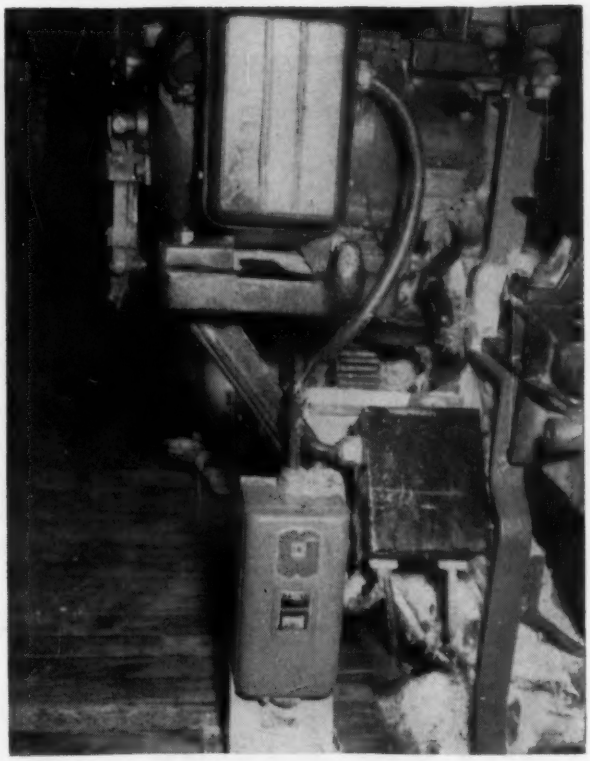
The building that houses the new looms was originally used for carding and spinning rooms. When the 210 X-2 looms were added to 216 E-model looms already in the mill, the carding and spinning machinery was moved to a new building so that all looms would be in one weave room.

One System Does It All

The old building is 3½ to 4 ft. above the ground, and the floor structure was braced underneath. Much of the original top flooring is still in place under the looms.

Cloth manufacturing at Hartwell begins with cotton

SINGLE-TYPE PEDESTAL and loom-motor starter are wired from a conduit under the floor. Strap (arrow) is grounded to the loom.



OVER-ALL CLEANING of electrical equipment at the loom is easy because it is blown off each time the loom itself is cleaned.

opening and continues through cloth grading and baling for the customers. A single-floor-level building houses all machinery, including 14,792 spindles and 426 looms.

The electrical-distribution system for the entire mill was overhauled when the new building was added and the new looms were installed. J. E. Sirrine Co. was the engineer; and Carter Electric Co., Augusta, Ga., was the electrical contractor.

Electricity for the whole mill is distributed from a substation of three Georgia Power Co. 500-kva. transformers located at the lengthwise center of the mill building. The primary voltage is 44,000 v. and is stepped down to 550 or 600 v. The central location results in better voltage regulation in all production departments of the mill.

Controls Are Equalized

Three General Electric controls are placed along the walls of the X-2 weave room so that the looms are divided into three sections of 70 looms each. The controls are the combination magnetic-contactor type with air circuit-breaker enclosures. This location of the controls, as with the substation, insures against power losses in distribution.

Two 2½-in. conduits serve as feeders from the power company substation to each GE control. Each conduit contains three 300,000-cir. mil cables. The capacity of the feeder is 600 amps. The cable insulation is varnished cambric.

There's a Cutler-Hammer 60-amp. switch adjoining each of the GE controls for two 15-kva. capacitor units to correct the power factor.

A branch-circuit panel is connected to each GE control. Each panel contains 10 30-amp. branches, and each branch feeds seven looms. Therefore, if a power failure occurs at one loom, only seven looms are shut down. The circuit panel is the NEMA 1A type with dust-resisting gaskets.

10 Conduits for 70 Looms

Ten ½-in. conduits are used as feeders from the branch-circuit panel to the loom starters. Each conduit feeds seven looms. The conduit wiring is No. 12-type T.W. moisture-resisting wiring.

The conduits run straight down the building wall from the branch-circuit panels, through the floor, and connect with loom-motor starters from under the floor. Since there's no sprinkler system in the 3½- to 4-ft. building area under the looms, the conduits are connected to the starters in continuous loops, with no breaks or junctions of any kind.

Pedestals for loom-motor starters are the single-pedestal type with wiring space in the bottom. They're made by B&C Metal Stamping Co. Each pedestal is grounded to the loom foot with an external grounding strap.

Square D loom-motor starters are used on all X-2 looms. A neoprene gasket makes a lintproof enclosure. The switch is a manual line-voltage starter with protection for individual-motor overloads.

The type S.O. heavy-duty cable from the Square D switch to the loom motor is oil-resistant neoprene and is fastened with waterproof connectors to keep out oil. A fourth internal conductor is a ground wire.

The loom is driven by a 1-hp. Draper-Diehl power transmitter. The warp stop motion is also electrically operated.

The initial electrical installation at Hartwell was very economical, and so far there have been no maintenance costs. The only maintenance to date has been normal cleaning when the overhead area of the weave room is cleaned, and at regular loom-cleaning periods.

STOPPED LOOMS and low efficiency, generally, result when shuttles are worn or chipped. Then weavers have more work than they can do.

GOOD LOOMFIXING is necessary for long shuttle life. Here, a loomfixer sets a picking shoe correctly to reduce excessive picker-stick power.

Fix Your Looms For Longer SHUTTLE LIFE

Here's how you can make your $5 to $6 shuttles on woolen looms last longer and up your over-all weave-room efficiency at the same time—

- **Inspect your shuttles for wear**
- **Take a clue from shuttle condition to fix your looms**
- **Then set up an inspection schedule**

By EUGENE P. SCHREMP, Consulting Editor, TEXTILE WORLD

THE LIFE of a shuttle is largely determined by the condition of the loom it runs in. Systematic shuttle inspecting will show up the looms on a job that need adjusting, and worn places on the shuttles will indicate the causes of wear.

Proper alignment of reeds, race plates, and shuttle boxes are important factors in preventing shuttle wear. And great care should be taken to see that all shuttle boxes are timed correctly. Harnesses must also be timed and set closely.

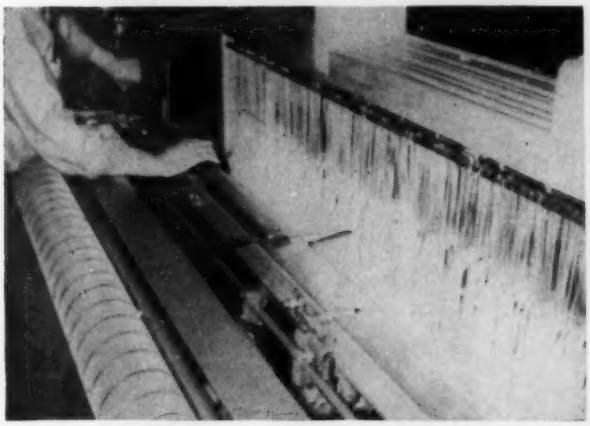
Increasing shuttle life saves in shuttle costs; but more important, higher loom efficiency results and fabric quality is improved. Rough and splintered shuttles caused by looms in poor mechanical condition cause excessive warp-end breakage and many cloth faults.

Match the Shuttles

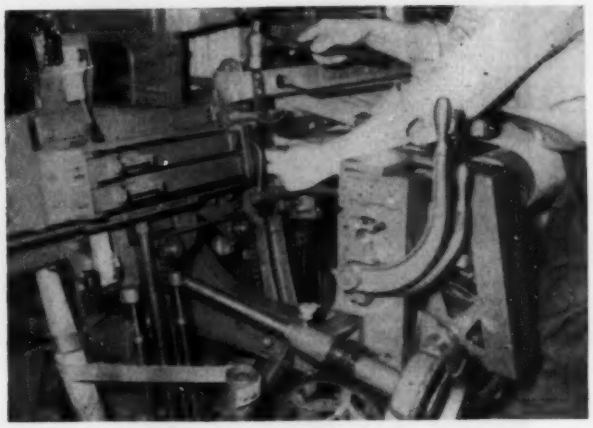
When several shuttles are used in one C&K drop-box loom, the shuttles should all be made by the same shuttle manufacturer and they should be the same size and weight. Any variations of these qualities cause the shuttles to box erratically, and bang-offs result.

Use a scale to match shuttles for weight. Use a shuttle gauge to be sure they're the same size. If shuttles of the same weight aren't the same size, set the shuttle gauge to the width of the narrowest; and then cut the other shuttles of the set down to fit the gauge.

Check all reeds for ridges and hollows before they're used on a drawn-warp pattern. To straighten reeds before they're drawn on a pattern, cut a hardwood beam the width of the reed between the reed heading. Make the



LAY ALIGNMENT is a main step in reducing shuttle wear. Use a long straightedge at warp-outs to align both lay ends and the race plate.



SHUTTLE GUIDE is set ⅛ in. over the shuttle with the shuttle on the warp and race plate. Be sure the leather isn't worn.

beam longer than the reed. Lay the reed on the wood beam, and use a plywood picker stick and heavy hammer to straighten the high spots. Then turn the reed over and straighten the other side. Respace uneven dents with reed pliers.

Inspect Shuttles Often

Inspect the shuttles in all looms regularly and systematicaly for shuttles wearing excessively. The wear on the shuttle will usually indicate the cause. For example, the chances are that washboard marks are caused by an uneven reed. If the reed cannot be repaired in the loom, stop the loom at the first cut mark and put on a new reed.

If washboard marks appear only at the ends of the back of the shuttle, realign the reed to the shuttle boxes and the over-all reed line.

Wear and chipping on the bottom ends of shuttles are usually caused by a shuttle box set too high or low, or by a loose race plate. Damage to the top of shuttles is caused by: (1) shuttle boxes out of adjustment; (2) the feeler wires of the center filling stop motion set too low over the shuttle; (3) the shuttle guide on the handrail set wrong; or (4) too much power on the picking motion, which causes the shuttles to lift and strike the box top.

Avoid Damage at the Front

Damage at the front of the shuttles such as chipping near the eye at the filling groove is the most-serious damage, and often the shuttles cannot be repaired. This damage is caused by the shuttle being thrown out of true shuttle flight and by worn leather covering at the mouth of the drive-end shuttle box.

When a shuttle is chipped at the front or worn down so much there's no filling groove left, serious weaving problems occur. The filling is cut when the shuttle is picked into or out of the shuttle boxes. Also, filling ends break at bobbin transfers and make double picks and jerk-ins.

Use a straightedge often to check loom-lay alignment. On C&K W-3 looms, align the shuttle boxes on both ends of the loom so that they're pitched inward and downward $\frac{1}{32}$ in. for each 18 ins. of length. The reed line is $\frac{1}{32}$ in. back of the rear edge of the race plate;

CENTER STOP MOTION is set with the feeler wires 3/16 in. over the front wall of the shuttle when the lay is at the back-center position to prevent scarring the shuttles on top.

therefore, when you're checking the pitch of a lay end, add $\frac{1}{32}$ in. to the gap between the back edge of the straightedge and the rear edge of the race plate.

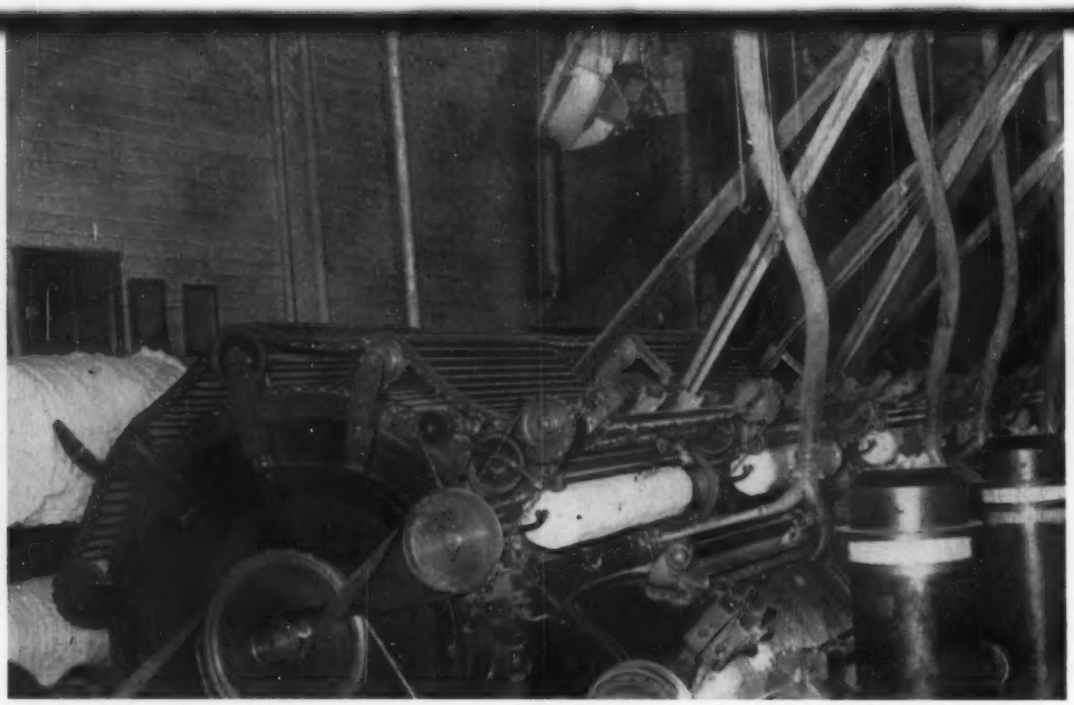
Align Lay Ends Closely

To check a lay end for the correct pitch, extend a long straightedge the full length of the shuttle box and press it firmly against the back of the box. A 36-in. straightedge should extend $\frac{1}{16}$ in. from the back edge of the race plate, a 54-in. straightedge should extend $\frac{3}{32}$ in., and a 72-in. straightedge should extend $\frac{1}{8}$ in.

The downward pitch is checked much the same way and by the same dimensions.

When warps are out, loomfixers should check the lay alignment and shuttle-box adjustments, adjust the tension on harness straps uniformly at this time, and set the height of the warp shed. After 4 or 5 yds. of cloth have been woven and the warp tension is adjusted for the style of cloth being woven, reset the height of the harnesses so that the warp is set correctly over the race plate.

Supervisors should develop a checking system at warp-outs to be sure their loomfixers check every loom.



AUTOMATIC CEILING CLEANERS reduce the amount of foreign lint in the sliver. Mills using this equipment agreed that the cost of installation and operation of these cleaners is justified.

Georgia Mill Men Thresh Out CARDING PROBLEMS

The spring meeting of the Textile Operating Executives of Georgia brought reports of many mills' experiences with carding methods and equipment. Subjects discussed included—

- **Running properties of current cotton**
- **Cotton-fiber tests**
- **Humidity in opening and picking**
- **Card-clothing life**
- **Overhauling roving frames**

THE MILLS first reported on running properties of current cotton. Here are some typical observations:

1. "About the same as last year."

2. ". . . Our data do not reveal a definite trend. However our Shirley Analyzer results show that Strict Middling and Middling grades have a 1% increase in good lint content. . . . Our nep counts at the cards have remained about the same for the 1954 crop as for previous crops."

3. "The trash content in this year's cotton is a little higher. The color of the cotton and the moisture content are about the same as in previous years. Nep count is somewhat higher in the cotton this year. Our records indicate that strength is about the same."

4. "The cotton we are getting this year has considerably more short fiber than last year's crop, which means more fly throughout the mill and a slightly lower over-all yarn breaking strength. The color is good, and we find no appreciable difference in trash content and nep count."

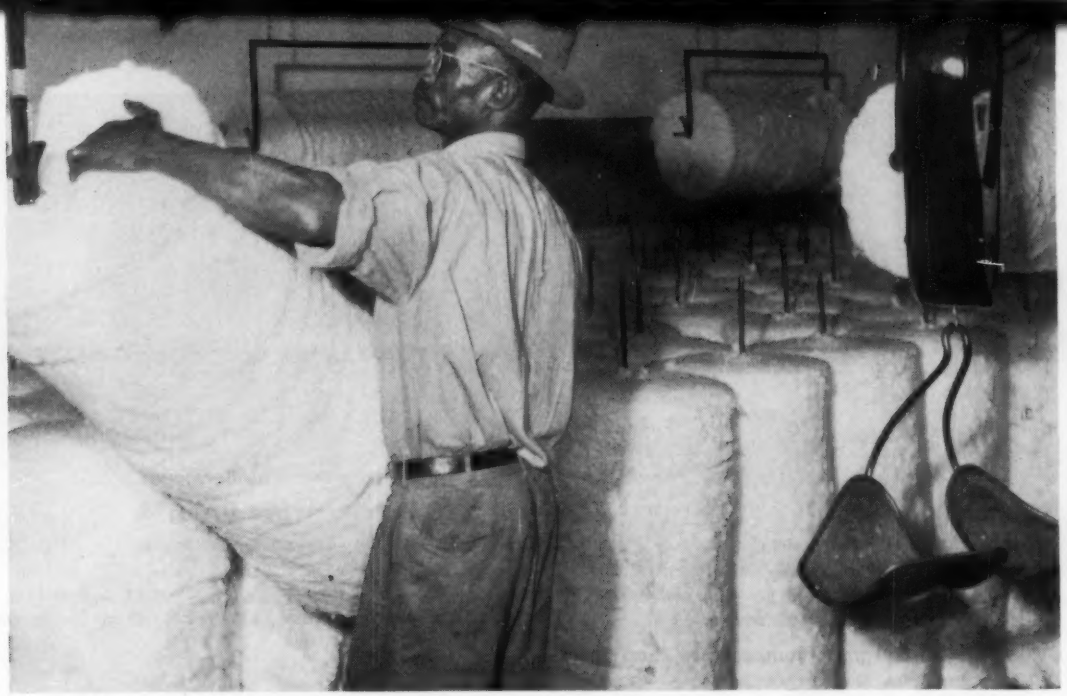
5. ". . . Waste has increased . . . Mote, strip, fly, and clearer waste have changed from 6.31% for last year's crop to 6.88% for this year's crop. . . The color of this year's crop is good. . . Strength is improved over that of last year."

Testing Fiber Pays Off

Reports of testing procedure on cotton fiber were made by 21 mills. All those with adequate testing programs agreed that the added expense of testing is more than offset by better-running work and more-even yarns. Here are some typical testing procedures:

Mill D: Cotton is checked on the Micronaire before it is purchased. Other cotton is bought within a specified Micronaire range. Delivered cotton is spot-checked on the Micronaire. Pressley breaks and Fibrograph tests are used to spot-check samples and cotton delivered.

Mill E: Each bale receives a Micronaire test when it is received, and the result is written on the bale tag. A moisture-content test is made on several bales from each carload. Each bale in the 24-bale mix must be within the Micronaire tolerance.



PICKER LAPS are improved by controlled humidity in the picker room. Most mills that reported are using 55% r.h. One mill humidifies only the lap-storage section to help eliminate static in the cards.

Mill J: A Speedar test establishes the modulus and fineness. Dye tests evaluate the dyeability; and often the samples are run through the Shirley, Arealometer, and Pressley testers to further evaluate the fiber. A minimum fineness reading is established for three grades used, and the specification is listed on the contract. Only bales meeting minimum fineness standards are accepted.

If 3.0 fineness is established as the standard, only bales of 3.0 or higher are accepted. The cotton is then divided into two groups according to fineness: the first contains cotton with Micronaire readings from 3.0 to 4.0 and the second from 4.0 and finer. These two groups comprise a 40-bale mix, 20 bales from the first group and 20 from the second group. The 40 bales go into 10 feeder hoppers; five hoppers each handle four bales with lower readings and the other five handle four bales with the higher Micronaire readings.

Mill M: Three tests are made as the cotton arrives at the mill: all bales are checked by Micronaire and by Pressley tester at two breaks per bale, and 15% of the bales are Fibrographed. From the results of the three tests, each bale is graded from special charts that give the approximate yarn skein strength. Cotton is opened and blended according to the test results.

Humidity Improves Picker Laps

Most mills found that controlled humidity in the picker room improves the quality of the laps. Relative humidities considered best in opening and picking run from 40 to 65%, with 55% most common. Most mills reporting have controlled humidity in the picker rooms but not in opening. In general, cleaning decreased with higher humidities.

One mill has humidifiers in the lap-storage section to help eliminate static in the cards. Another mill conditions its picker room at 45% r.h. to eliminate static and make a more-even and better-calendered lap. A third mill, processing Karnak cotton, uses 55% r.h. in opening and picking and finds that better control of lap density helps in preventing split backs at the cards.

Most of the mills did not have to change the draft gears in carding and spinning to maintain proper size control.

Where Fibers Are Blended

Most mills running synthetic fibers blend prior to feeding the picker hoppers. However, one mill feeds the pickers directly from the bale because the density of the stock permits better control of the picker evener motion. This mill reports that stock blended before it is fed to the pickers is more open. The fiber fills the blending-reserve box but does not have enough weight to permit correct functioning of the evener motion.

Another mill opens the fiber before the picking operation to get the correct weight more easily.

Beater speeds vary from 844 to 1,175 rpm., and production at 100% ranges from 200 to 538 lbs. per hr. One mill runs with Kirschner three-blade beaters on the breaker and finisher sections. Breaker beater speed is 900 and finisher speed 1,000 rpm.; production is 538 lbs. per hr. at 100% efficiency. This mill uses a No. 7 evener on the front picker section for long, coarse-denier fibers.

Ceiling cleaning over cards ranges from once a shift to once a week. The mills cleaning on every shift do not stop the cards during cleaning. Mills cleaning at longer intervals either stop the cards or run with the feed cut out. A few mills reported on automatic ceiling cleaners; they agreed that the cost of installation and operation is justified and that there is a reduction of foreign lint in the sliver.

Most mills reporting on card-clothing life use 110s, 100s, and 110s wire for the doffer, cylinder, and flats respectively. Card-clothing life among the mills varied from 7 to 20 years for doffer clothing, 6 to 15 years for cylinder clothing, and 6½ to 22 years for flats clothing.

Grinders Do Card Maintenance

All mills that reported on the job layout for card grinders give the responsibility for maintenance and lubrication to the card grinder. None of the mills have special setters; all settings are made by the card grinder. Here are some typical job layouts:

1. Each grinder moves three sets of rollers and puts them grinding. He

CONTINUED ON PAGE 172

Empire's New Machine DYES and SIZES Warps

Dyed and sized warps ready for the loom are being produced on a machine developed by Brawer Bros. Silk Co., Paterson, N. J. Installed at its Empire Piece Dyeing & Finishing Co. plant, the machine gets good results on a variety of warps as a result of—

- **Careful selection of dyestuffs**
- **Control of time, temperature, and tensions**

By ROBERT W. PINAULT, Assistant Editor, TEXTILE WORLD

Empire Piece Dyeing & Finishing Co. has developed a continuous dyeing and sizing process for rayon, acetate, and cotton warps that cuts labor costs 50% over skein or package methods.

It dyes directly from the manufacturer's beams, which reduces handling and waste and produces warps that weave with 15% better efficiency.

To get results in a relatively short dyeing time, an entirely new machine was built. Although the machine is essentially only a series of pad boxes followed by drying cans, many factors had to be taken into account, such as the sensitivity of rayon to moisture, the effect of tensions on wet and dry areas of yarn, and the effect of varying tensions between units of the machine.

A combination of synchronized drives provided with independent speed adjustment at various points enables Empire to handle a variety of yarns. Dyeing problems were licked by pad boxes of special design, constantly circulating dye liquor, and temperature control of every phase of dyeing and drying.

How Beams Are Set Up

Empire can lay up 12 beams of yarn on the creel behind the dyeing machine. As an example, one regular order calls for 9,600 ends of 150-den. bright rayon. Twelve 800-end beams are laid up on the creel and each end put through a reed, 12 ends to a dent. The yarn is then led into the first box of the dyeing section.

Additional dyeboxes, with squeeze rolls for each box, are used to dye many shades. In some cases, one or two dyeing boxes may be skipped. The dyeing units can also be supplied with different colors so that by guiding certain portions of the warp to the proper box, multishade warps can be produced. Dyeing temperature is generally 190° F.

Passing out of the dyeing units, the yarn enters a series of boxes containing a hot salt solution and is then given a cold rinse in two boxes. As with the dyeing unit, all boxes have squeeze rolls that help penetration and remove excess liquor.

Sizing Comes Next

The yarn is dried on nine stainless-steel cans, with temperature controlled to 180° F., and immediately goes into the size box. For rayon, the size is a gelatine-base mixture containing a softener. Another set of nine stainless-steel cans dries the dyed and sized yarn to exactly the right moisture content.

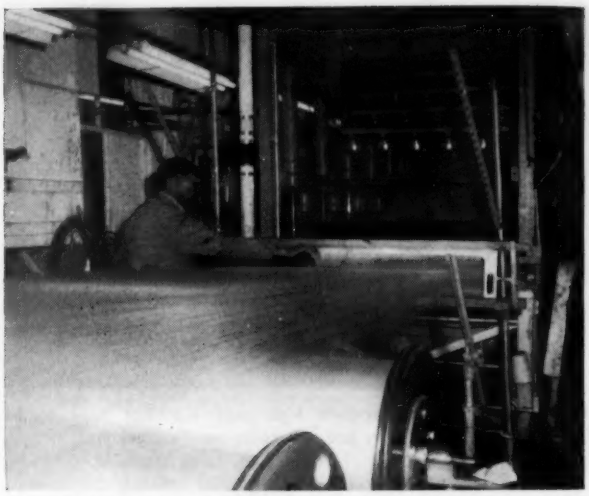
What makes the continuous dyeing and sizing process of particular value to weavers is the care taken to produce warps with each end perfectly free and laid in its proper place on the beam. To separate the ends, Empire employs all the steps that are used in a gray mill. First, as the warp comes off the drying cans, it is separated by stainless-steel bars into the original sections and then goes through an expansion comb 12 ends to a dent. Each thread is thus kept in the original alignment and batches up smooth and true on the warp beam.

Every warp has an extra thread that is led off onto a spool driven from the batcher. Samples are cut from the yarn that accumulates on the spool and are mounted on a card. The first sample is taken right after starting up, and others follow at 200- to 300-yd. intervals. These permanent records of each dyeing, showing at what point samples were taken, have been valuable in determining proper dyes and amounts of dye necessary for adjustment of shade.

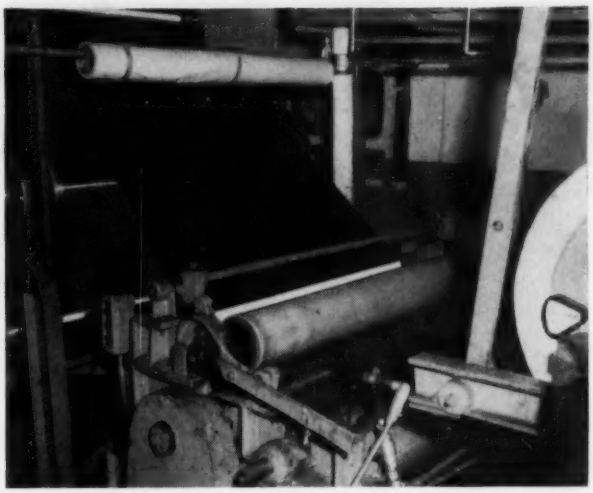
If a warp end breaks, it is easier to pick it up and guide it to the beam at a lower than normal speed; so the control system provides for cutting the entire range down to about half speed. When the slow-speed circuit is put in operation, steam to all cans is automatically cut off to prevent overdrying.

Warps Are Leased

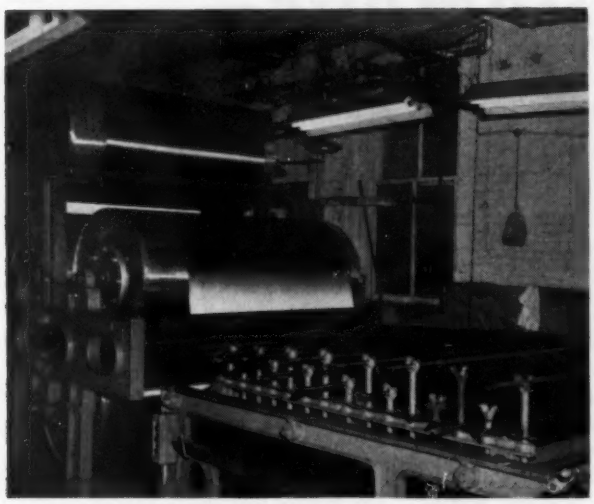
After the warp has been cut out of the range, it is put on a leasing machine. Two pairs of 900-den. rayon yarn, spaced about 1½ ins. apart, are carried across the warp; and each warp thread is guided over or under the first pair of leases and under or over the second pair. An alternate procedure for each thread assures a perfectly separated and aligned warp.



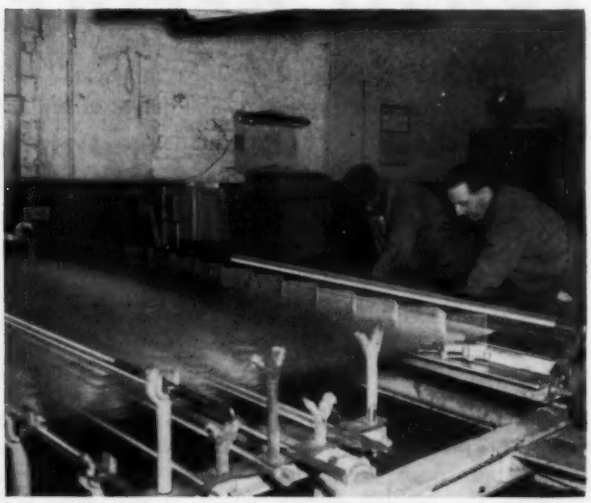
RAYON WARPS from 12 800-end beams are drawn into a reed just before they go into the first dyebox. The reed keeps each warp thread in line.



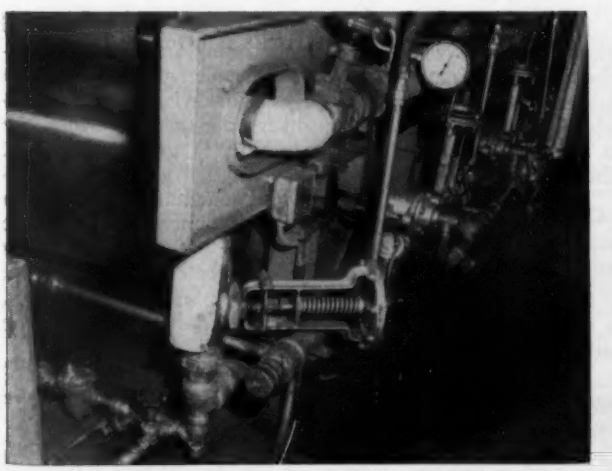
SIZING THE WARP is the next step after dyeing and drying. The pad is synchronized with the cans so that tensions are kept exactly right.



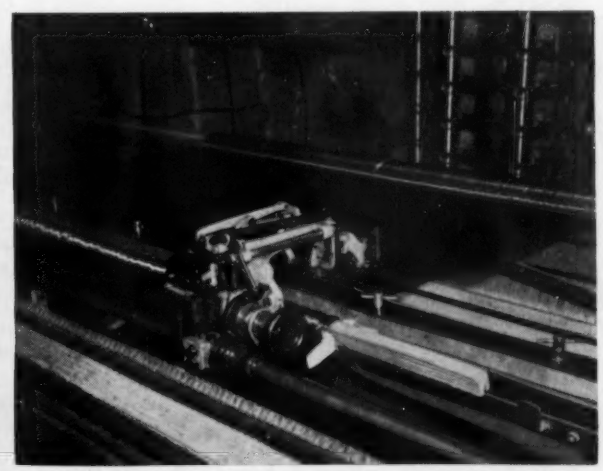
DYED, SIZED, AND DRIED WARPS leave the drying cans and are separated into the original beam sections by stainless-steel bars.



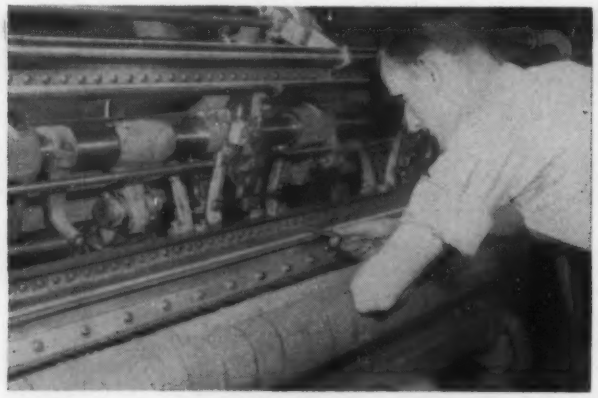
AN EXPANSION COMB recombines yarn from the separated beams. Each dent carries a thread from each beam.



HEAT CONTROL for slow-speed operation is provided by this valve mounted in the main steam line. When the range has to be slowed down temporarily, the valve closes automatically so that the yarn will not be overdried.



IN LEASING THE WARP the leaser lays in two pairs of 900-den. rayon yarns, over and under each alternate work end. Each thread is counted as a check against the number of ends started through the dyeing machine.



NEEDLES should be checked when the warp is out of the machine. Check the whole length of the needle bar.

VIBRATION PADS underneath high-speed machines need to be checked often. One faulty pad will cause needle breakage.

To Prevent TRICOT NEEDLE DAMAGE—

- Check needles, sinkers, and guides at the end of each warp
- Adjust machines for yarn-denier changes
- Watch for excessive vibration

By JOHN A. WERTMAN

EXCESSIVE NEEDLE BREAKAGE can be easily prevented by careful checks that take up little time. The time spent in checking will pay off in fewer stops and better-quality cloth.

Check the needles, sinkers, pressers, and guide-bar elements at the end of each warp. Make all adjustments at this time. Don't wait until you get the warp in the machine.

Check along the full length of the bar; don't just check in one or two spots. The needles should work in the exact center of the sinkers at all times; so check the needles for bow.

Pinholes, excessive yarn breakage, and hairy fabric will possibly result if needles are not centered. Sinkers, in addition to needles, may be broken.

Check the needle and sinker beds with a spirit level. Check the needles with a needle square to insure that the needles are at the correct angle to the bed.

Set Sinkers to Needles

Set the sinkers to the needles in the bed. Make this setting with the needles at a point halfway between the top and bottom of the rise and fall. Set the sinker throat opposite the needle eye. Check for loose sinkers.

Vibration will cause excessive needle breakage. The pads underneath the uprights of high-speed machines sometimes become loose and slide away.

The pads often become impregnated with oil, and they become practically useless. One faulty pad is enough to cause damage in the immediate vicinity of the upright on high-speed machines.

Cam rollers adjusted too tight will cause excessive vibration and needle breakage. The same action occurs when the cam rollers become worn. Replace the worn parts and realign them with the other elements.

Allow for Yarn Changes

Adjustments to machines must be made when yarn sizes are changed. Set the machines for the new yarn before the warp is entered. Align all the knitting elements after the adjustments are made.

When you change from a light to a heavy yarn, increase the pull down of the needle bar, and increase the press. Reverse the adjustment when you go to a lighter yarn.

Use the setscrews on the cam rollers to get these adjustments. You might find this adjustment more practical on older machines if you adjust the needle bar from the setscrews at the bottom of the bar. A partial turn of the screws is generally sufficient to get the desired results.

Change the presser to retain the same point of contact on the needles as before. You can do this by pressing harder, but usually it is better to change the presser position to keep the correct timing and point of contact on the needle.

Changes to heavier yarns also require sinker adjustments. Move the sinkers forward to give more throat knock-over as the yarn size is increased. This adjustment is done from the setscrews directly behind the sinker bed.

Slight changes in yarn denier should not need sinker adjustments. The increased pull down of the needle bar should take care of this.

To sum up: Check and align all parts from the cam shaft; be sure the machine is set up alike over the entire width; and check individual needles, sinkers, and guides. When defects are corrected before the warp is entered, the machine is assured of a long, steady run.

LOOM-STOP Analysis Pinpoints Causes of Stops

- **Everybody in the weave room had an idea what was causing trouble, but nobody knew that over half of all loom stops were caused by just four items**

- **As a result of a loom-stop analysis, a four-item loom-inspection program was started**

By P. WIERKS

LOOM-STOP TESTS are normal routine in many mills; the quality-control staff keeps an eye on loom stops along with jobloads and the quality and strength of yarn. But the breakdown of all loom stops over a period of time can be a revelation.

In this mill, an analysis of 2,160 loom hours pinpointed four main causes of stops—breaks in the shuttle, breaks in shuttleboxes, misindication, and transfer filling breaks. These four causes accounted for almost 50% of all loom stops. (Breaks caused by knots is also a major item, but this cause is strictly related to yarn manufacture and is beyond the control of the weaving department.)

A maintenance program to concentrate on these four items has been started. All looms are inspected twice a week for the four causes of loom stops. The mill is convinced that this program is the first step towards a big improvement in its weaving efficiency. As an additional step, a shuttle-tension tester has been ordered to standardize shuttle tensions.

A quality-control man makes a 4-hr. loom-stop test once or twice a week at random times and on random sets of looms. Every loom stop is marked on a loom-stoppage report under the proper heading. In cases of doubt, the checker asks the opinion of the weaver to make sure that the subdivision is as accurate as possible. After an hour, an alert checker can decide if any type of break occurs frequently.

How Looms Are Checked

For instance, assume that Loom 9 has three yarn breaks within half an hour. Instead of putting down a check mark for each shuttle break, the checker marks Shuttle 2, 3, or 4, according to which shuttle in the loom had the break. If all three yarn breaks on Loom 9 occur on the same shuttle, say Shuttle 2, a quick glance shows this loom marked 2, 2, 2 under Shuttle Breaks. Instantly, the troublesome shuttle, Number 2, is reported to the weave-room overseer, who can take the necessary steps to avoid repeats.

This cycle of yarn breaks would have escaped the attention of the weaver, who is fully occupied with his looms. Five minutes of the fixer's time on the spot will often eliminate such a cycle of breaks. And the same approach applies to other items.

After this routine test has been completed, the loom-stoppage report is analyzed. First of all, the total number of loom stops per hour is calculated by dividing the total number of stops by loom hours. In this example: $120 \div 48 = 2.5$ stops per loom hour.

This figure is then compared to the standard used for the jobload calculations. If a weaver's jobload is based on three stops per loom hour and the actual number of stops per loom hour is five for a relatively long period, something is out of line. A change in jobloads might be required;

CONTINUED ON PAGE 178

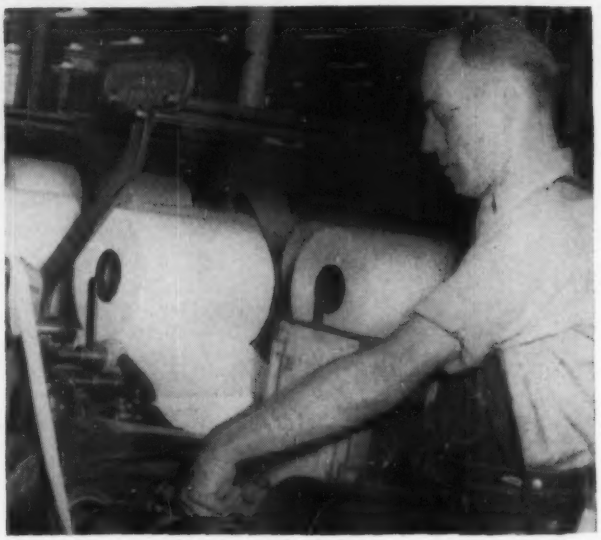
RESULTS OF LOOM-STOP ANALYSIS

Caused by	% of total stops
Warp breaks	
Drop wires	1
Heddles	7
Knots	14
Reeds	4
Warp	1
Shuttle	1
Loose ends	1
Lint on yarn	2
Unknown	1
Filling breaks	
Bad quills	1
Bad bunch	1
Shuttles	18
Shuttle boxes	5
Feelers	1
Knots	6
Slack filling	1
Unknown	1
Mechanical stops	
Bang-off	3
2nd pick	1
Filling run-out	2
Repairs	4
Misindication	11
Stop off	1
Transfer stops	12

The weave room has no direct control over knots. This information is for yarn department.

All looms are inspected twice a week for these items.

DROP CHUTES lead from the picker room, where the cotton is opened, to the opener room directly beneath. Garland Stroupe, overseer of carding, demonstrates how the chutes are used.



THREE-OVER-FOUR DRAWBOXES have been installed on the Naismith combers. Production is about 11 lbs. per hr. per comber. Settings are conventional. Marshall Sellers shows how the rolls operate.

How Carlton Spins Fine COMBED YARNS

In spinning 50s to 140s yarn from 1½-in. Sak cotton, Carlton Yarn Mills emphasizes quality at all times. With new and modernized machinery, the mill pays special attention to—

- **Machine inspection and maintenance**
- **Safety and housekeeping inspections**
- **Well-trained and happy employees**

By WILLIAM G, ASHMORE, Associate Editor, TEXTILE WORLD

MODERNIZED COMBERS, new drawing frames, rebuilt spinning, and new lighting are helping Carlton Yarn Mills, Cherryville, N. C., to increase the quality of its fine combed yarns.

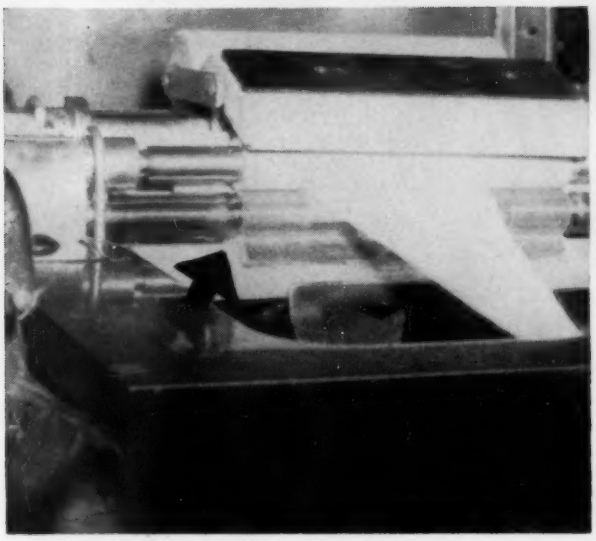
Carlton is interested in the manufacture of premium yarns only, and the management considers quality of the product ahead of machine efficiency. Quality is maintained by a program of continuous modernization, maintenance, housekeeping inspection, and supervisor training.

The mill produces around 35,000 lbs. of fine combed yarns per week from the best grade of 1½-in. Sak cotton. This figure represents about 80% of the plant's total production; the remaining production consists of synthetic yarns.

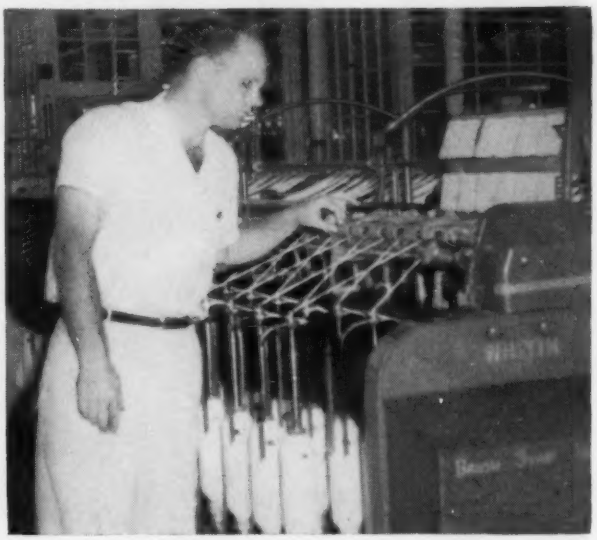
40 Bales Are Opened

A unique feature of the opening process is that the bales are laid down in the picker room, located directly above the opening room and on a level with the rest of the mill, because of the space available there. Forty bales are laid down at one time.

CONTINUAL INSPECTION is the rule at Carlton. J. L. Boyd, quality-control director, watches Mary Brown, spinner, put up an end. Each frame is supplied with individual waste box (arrow).



THE BUTTON (arrow) has been removed from the end rolls of the new three-over-four Saco-Lowell drawing frames. Also, the small sand-blast roll has been replaced with a fine fluted roll.



THE WHITIN INTERDRAFT roving frames are 10x5 and 8x3½. Glass partition seen in the background separates roving from carding so that humidity can be better controlled.

Feeding is from 20 bales; the other 20 bales are left to bloom.

Cotton is fed into five drop chutes that lead directly through the floor to five hoppers in the opening room below. Two of these hoppers are Saco-Lowell F-5, and three are Whitin. On the front of the hoppers are Saco-Lowell No. 15 openers that feed into a Saco-Lowell No. 16 opener equipped with a pin beater and revolving grid bars.

The final piece of equipment in the opening room is a Saco-Lowell No. 11-over-12 lattice opener.

After opening, the cotton is fed by means of a vacuum-pipe conveyor up to the picker room, where it enters a Saco-Lowell overflow box. A conveyor transports the cotton from the overflow box to the two single-process pickers, one Kitson and the other Saco-Lowell.

Both pickers have a Kirschner beater in front and a blade beater in the rear. Beaters run from 650 to 700 rpm. Production per picker is about 300 lbs. per hr.

PACKING AND SHIPPING are done in a bright, clean room adjacent to the finishing department. Dollies are designed to prevent unnecessary stooping when boxes are packed.

In the card room are 101 Whitin cards producing 4 lbs. per hr. Lickerin speed is 330 rpm. Settings are conventional.

Following the cards are three Whitin sliver lappers, four Whitin ribbon lappers, and 25 Naismith combers recently equipped with three-over four drawboxes. The combers each produce about 11 lbs. per hr. Settings are conventional.

Drawing Is Modified

Forty-eight deliveries of new Saco-Lowell three-over-four two-process drawing have been installed recently. The drawing frames produce 11 lbs. of 45-grain sliver per delivery per hour. Total draft is 6.4, and the front-roll speed is 220 rpm.

The mill has made the following modifications in the setup of its drawing equipment:

The button has been taken off the ends of the top middle roll, and the small sand-blasted middle roll has been replaced with a fine-fluted roll. These changes are said to give a more-even sliver and also to improve drafting.

The clearers have been replaced with the Petty "wiggle type" clearer said to keep the top rolls extra slick and to produce less clearer waste.

In the roving department are five 10x5 Whitin Interdraft frames on 1.70-hk. roving. Also, there are nine 8x3½ Whitin frames on 5-hk. roving.

There are 109 modernized Whitin long-draft Casablancas spinning frames in operation. Recently, these frames were equipped with the Roberts cradle, new Gastonia Roller, Flyer & Spindle steel bottom and top front rolls, new Whitin ball-bearing spindles, and new revolving top clearers. The spinning is equipped with Pneumafil. Production per doff was increased 100% by adding an 8-in. traverse.

In making 80s singles, spindle speed is 10,200 rpm.; front-roll speed is 92 rpm.; draft is 32; and twist is 36 tpi.

Other settings are conventional.

The yarn is wound on 11 Foster 102 winders and plied on 74 Whitin and Fales & Jenks twisters.

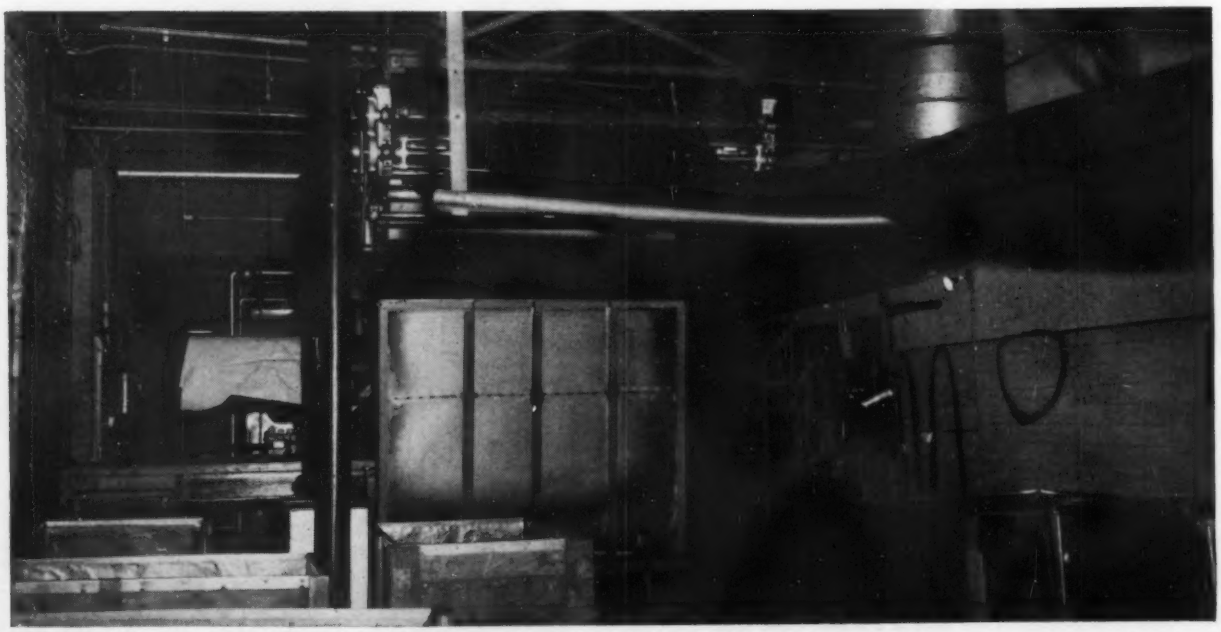
CONTINUED ON PAGE 168

PIECES ARE SEWED TOGETHER after being loaded in the stainless-steel kettles. Special reels on the kettles have a herringbone grid that transports cloth without slippage.

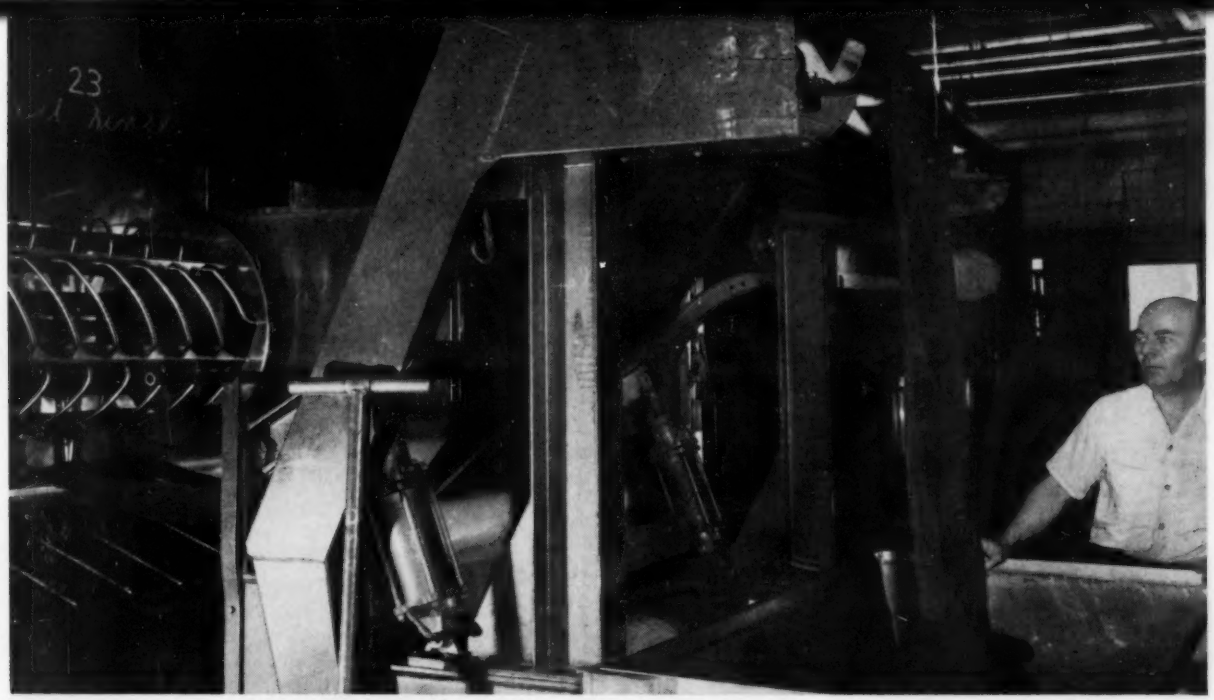
How Miron Mills *PIECE-DYES WORSTEDS*

• Miron's modern dyehouse at Clinton, Mass., is equipped to handle men's and women's wear worsteds in a variety of styles and weights. Formula dyeing, assisted by automatic cycling controls for time and temperature, help produce consistent results with a minimum of trouble.

By **ROBERT W. PINAULT,** Assistant Editor, TEXTILE WORLD



SCUTCHER-EXTRACTOR RANGE opens up the goods and removes the balance of the water as the fabric passes over a vacuum slot. Scray in background supplies the dryer (beyond).



PORTABLE EXTRACTOR pulls dyed goods from the kettle and removes most of the excess water. A pan under the nip directs the water to a ditch in front of the beck.

MEN'S AND WOMEN'S WEAR, varying from tropical worsteds to 12-oz.-per-yd. regular suitings, comprise the bulk of goods dyed at Miron Mills, Clinton, Mass. Some blends with mohair and others with decorative silk threads are also regular numbers.

All the goods received at Miron for dyeing have been wet-finished. The wet-finishing operations include scouring, crabbing, and fulling; but not all styles require all these steps. After wet-finishing, the goods are dried on a pin tenter and are ready to be dyed. The greater part of the shrinkage inherent in wool fabrics has been removed by the wet-finishing processes.

Boil-Off Is First

To get the goods thoroughly wet-out and further prepare them for dyeing, they are given a short boil-off with 1% Nacconol at 210° F. After 15 to 30 mins., the bath is first flooded over with warm water and then gradually cooled to 100° F. with cold water to avoid setting creases. If the goods are to be dyed by the top-chrome method, acetic acid and Glauber's salt are added to the bath along with the dyestuff. The temperature is then raised to the boil in 45 mins. to 2 hrs., depending on the goods and the shade.

Control of the time required is automatically taken care of by a cam-operated Bristol controller. The cams are cut so that the control furnishes steam at the proper rate to raise the temperature of the dyebath in any desired time. Hard-finished worsted requires a longer time to be raised to full dyeing temperature. Softer goods can be brought to the boil in 30 to 45 mins. with no damage.

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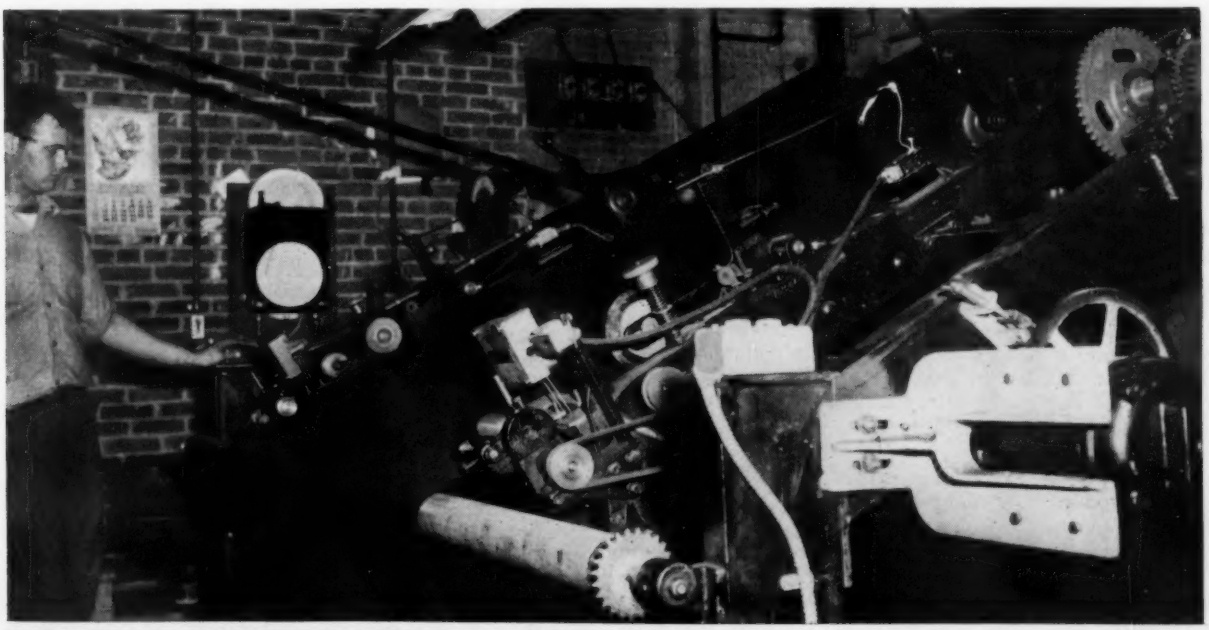
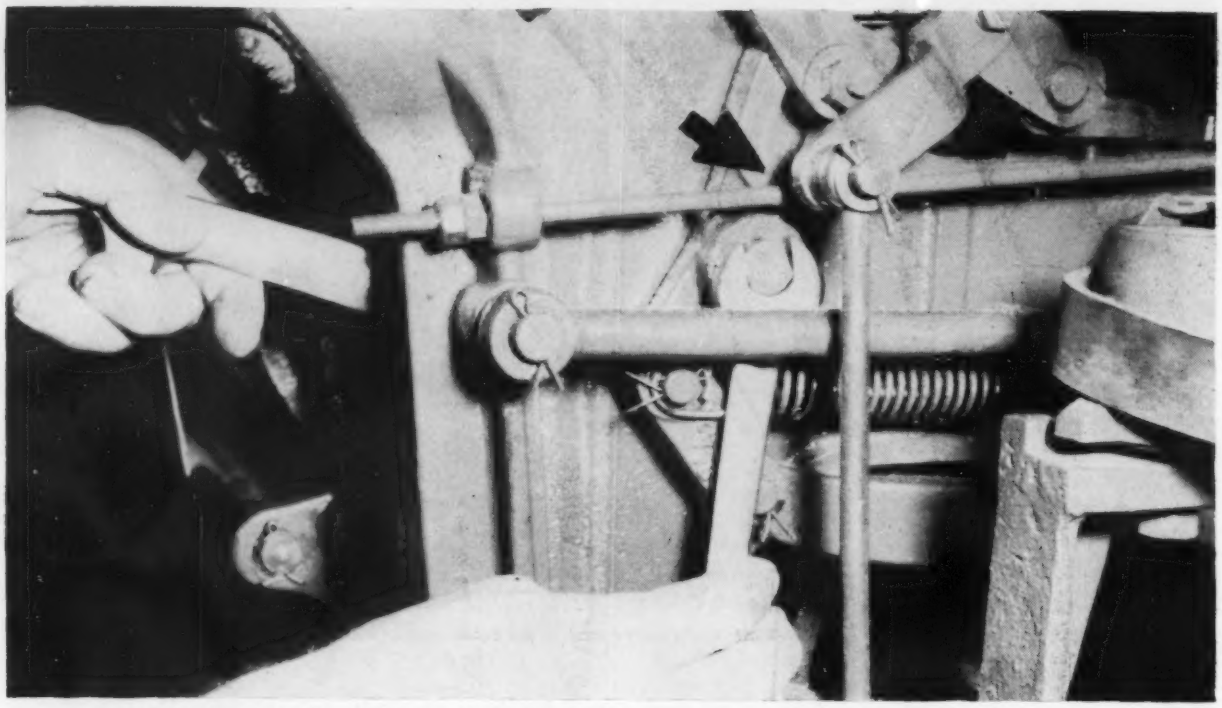


PIN TENTER is equipped with automatic guiders and power-driven uncurlers. These devices position the goods so that every yard of goods is pinned precisely at the selvage.



LOCK LEVER FOR BRAKE (arrow) must be adjusted so that the shipper and brake handles are easy to knock off.

Setting SHIPPER MOTIONS On C&K S-6 Looms

● The shipper motion is just a small part of loom operation, but a shipper motion in bad condition usually indicates bad loomfixing throughout the loom. The following shipper-motion settings are for S-6 looms; but many of the settings apply, in part, to other looms.

By W. R. CALLAWAY

WEAVERS on Crompton & Knowles S-6 looms can pull the shipper handles on and off with ease if the shipper parts are set correctly. Taken as a complete operation, a weave room isn't affected much if shipper handles are hard or easy to knock off and pull on; but easily moved shipper handles have three definite advantages: (1) weavers don't tire so quickly and therefore give more attention to their work; (2) the clutch operates faster to eliminate starting marks; and (3) the center stop motion stops quickly, and broken picks are eliminated.

Periodic checks of shipper levers by loomfixers will insure easy operation. Minor adjustments require only a few minutes, and setting up a shipper motion completely takes less than 30 mins.

The setscrews on the shipper parts vibrate loose occasionally and require minor adjustments. Only two other things can result in faulty operation: (1) the check nuts on the capscrew stops on the protector-rod bearings come loose, and the protector-rod daggers cut through the tube on the shipper shaft and cut into the shipper shaft; and (2) oil or grease gets into the tube, the tube and shaft corrode, and they freeze.

Setting Shipper Handles

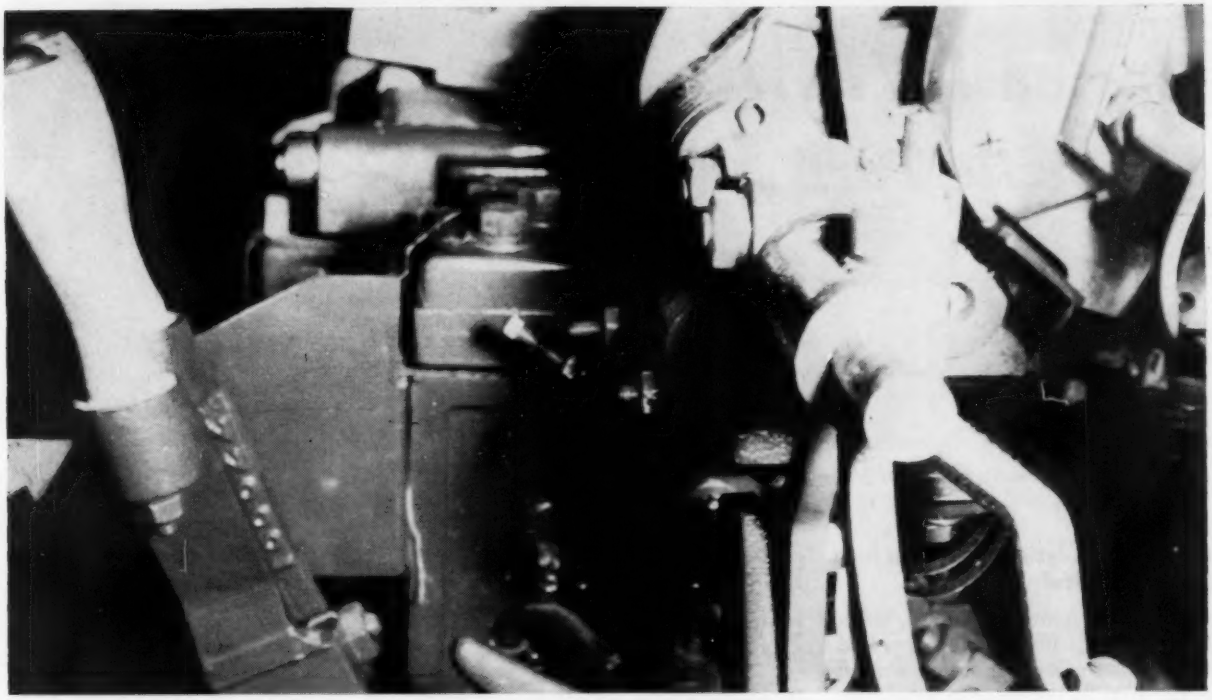
Always turn off the loom motor before you start working on the shipper motion. Be sure the shipper and brake handles are working freely; the handles, shipper shaft, and tube on shipper shaft must not bind. Then start setting the shipper motion from the brake handle on the drive end of the loom.

Remove the warp stop-motion knock-off rod from the knock-off lever so it will not interfere with the movement of the shipper motion.

Adjust the lock lever for the brake so that the brake handle is easy to knock off. When the brake handle is easy to knock off, it is set correctly at the running position.

With both handles in the running position, align the shipper handle in a straight line with the brake handle by adjusting the stop screw in the shipper handle. After the shipper and brake handles are aligned, adjust the intermediate lever so that the handles knock off easily; but they must not slip off when the loom is running.

Adjust the knock-off capscrew in the brake handle so that there's a $\frac{1}{16}$-in. clearance between it and the knock-off lever for the protector motion.



SHIPPER AND BRAKE HANDLES (arrow) should be aligned with each other. Make this setting with the handles on.

Setting Correlated Parts

With the shipper handles in the running position, adjust the switch-spring finger for the warp stop-motion and selective-feeler switch so the switch is on. But the finger must also be adjusted so that the switch is off when the shipper handles are off. When the finger is set properly, a dangerous fire hazard is eliminated.

With the brake handles on, set the spring for the brake lever so it's extended ¼ in. Push the brake handles off, and set the spring for the intermediate lever so it's extended ¼ in.

When the shipper handle and brake handle on the drive end of the loom have been set correctly, the shipper handle on the head end will be in the correct position. To complete the shipper-motion settings on the head end:

1. Pull the shipper handle to the running position, loosen the setscrew on the brake handle, and align the brake handle with the shipper handle.

2. Adjust the knock-off capscrew in the brake handle with 1/16-in. clearance between it and the knock-off lever.

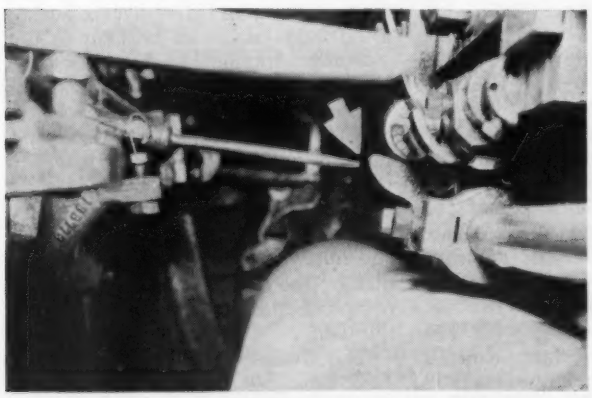
Making Final Adjustments

While settings are being made on the shipper motion, the knock-off-tube coupling may get out of adjustment with the center stop-motion arm on the knock-off shaft. This misadjustment may prevent the shipper handles from reaching the full running position, or it may prevent the center stop motion from stopping accurately.

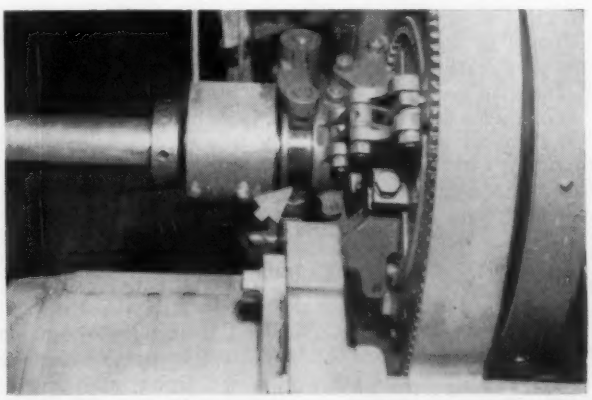
To reset the coupling, pull the shipper handles to the running position, loosen the two setscrews on the coupling, and set the coupling 1/16 in. from the arm on the knock-off shaft for the center stop motion.

Replace the knock-off rod on the warp stop motion, and adjust the rod length so that the knock-off lever is 1/16 in. from the knock-off case when the shipper handles are in the running position.

Adjust the stop on the rod head on the shipper connector so that the release sleeve on the clutch is ¾ in. from driver and driver cap on the crankshaft when the shipper handles are off. Then adjust the shipper-handle stop on the head end of the loom.



KNOCK-OFF-TUBE COUPLING (arrow) is set 1/16 in. below the arm on the knock-off shaft for the center stop motion.



CLUTCH PARTS (arrow) are coordinated with the shipper motion for fast easy action at loom stops and starts.

Tips on DYEING Synthetic-Yarn SWEATERS

● Nearly all synthetic-yarn sweaters are piece-dyed at present. Here are practical methods of dyeing nylon, Orlon, and blends of these fibers with disperse, acid, and basic dyes.

Q. Is sweater dyeing in garment form an old practice?

A. No. The synthetic yarns sparked this method. Before they appeared, sweaters were knitted from yarns already dyed in the form of stock, top, or yarn.

Q. What is the most popular synthetic fiber going into sweaters?

A. Nylon was the first synthetic and attained popularity first, but Orlon and nylon-Orlon blends predominate today.

Q. Do you heat-set nylon sweaters before dyeing?

A. At first, nylon sweaters were heat-set by subjecting them to temperatures of 240 to 260° F. for 5 to 10 mins. in an autoclave or similar pressure chamber, but at present some plants have found this step to be unnecessary. The dyeing temperatures serve to relax and set the stitches sufficiently at a saving in cost.

Q. What is a good general procedure for dyeing nylon sweaters?

A. First, scour in 2% soap, 2% of Duponal or Igepon, and 1% trisodium-phosphate for 20 mins. at 150° F. and give two warm rinses.

Then set a dyebath at 130° F. with 1% Duponal, add the color, and raise to 180 to 190° F. Continue to dye at this temperature until the shade is matched, and rinse well in a fresh bath. In a fresh bath, add 2 to 3% of a cationic softener and run for 15 mins. at 110° F. Extract in a centrifugal extractor, and dry in a tumbler dryer at 180° F.

Q. What dyes are used most on nylon?

A. Disperse dyes are commonly used because they level out well and build up satisfactorily. For very bright shades, wool milling colors are used, exhausted with acetic or formic acid. The neutral-dyeing metallized dyes have good fastness properties and are useful in producing medium and dark shades. Aftertreatment with tannic acid will improve the washfastness of acid, milling, and direct colors.

Q. How would you handle Orlon?

A. Orlon is considerably different from nylon chemically and therefore requires somewhat different handling. A scour similar to that mentioned for nylon would precede dyeing. Disperse dyes, basic dyes, or acid dyes are used, the latter by the cuprous-ion method. A cuprous-ion procedure would go like this:

Run the scoured goods 10 mins. at 120° F. and add, in the following order

1. Necessary acid-type dye
2. Wetting agent
3. ½% sulfuric acid
4. 5% phenol
5. 2% copper sulfate

Raise the temperature to 180° F. and check pH, which should be 2 to 2.5. If it is over 2.5, add sulfuric acid. Then add over a 20-min. period 1% hydroxyl ammonium sulfate. Raise temperature to 210° F. and continue dyeing for 1 hr. If dye adds are necessary, the bath is cooled to 180° F. and the dye added along with ¼% hydroxyl ammonium sulfate. Run 10 mins., and raise temperature to 210° F. Run 30 mins. and sample. When the dyeing is completed, very gradual cooling of the dyebath is necessary to avoid setting creases in the sweaters. Rinsing continues until the water is clear.

Dark shades will require 4 to 6% copper sulfate and 2 to 3% hydroxyl ammonium sulfate. All percentages are on the weight of the goods.

After dyeing, a scour with a detergent for 15 mins, at 170° F., followed by a finishing bath containing a cationic softener, will complete the job.

Q. How are disperse dyes applied?

A. Light shades on Orlon 42 can be produced with disperse dyes by dispersing the color with Duponal RA and adding them to the dyebath at 120° F. The temperature is raised to 210° F. over a 30-min. period and kept there until the dyeing is completed.

The dyeings have good fastness to light, washing, and perspiration.

Q. What about basic dyes?

A. They are satisfactory for the production of medium and dark shades of good general fastness. One point to watch is to use only nonionic detergents in scouring before dyeing and to avoid ammonia as an assistant in the scouring. Ammonia will occupy possible dye sites and thus reduce absorption of the basic dyes.

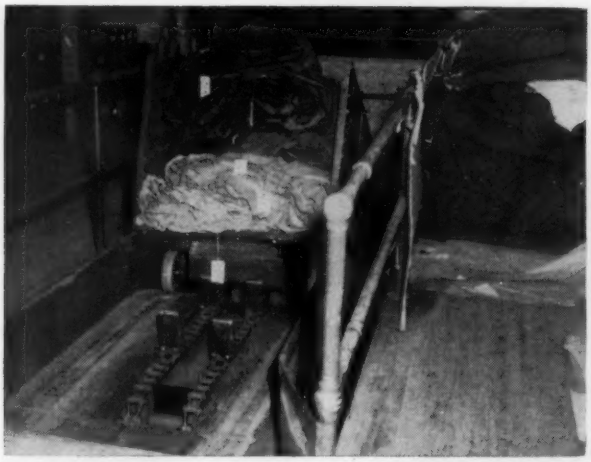
The dyebath, set at 140° F., should include:

1% acetic acid 56%
0.3% sodium acetate

Dyes are pasted with acetic acid, and hot water at 190° F. is added to dissolve the dye. When the solution is complete, the dye may be added to the bath.

The dyebath is raised to 210 to 212° F. in 30 mins. and maintained at this temperature for 2 to 3 hrs., depending on the shade.

Based on a paper presented at the Philadelphia Section of AATCC by Henry Kline, Keystone Dye Works.



TRANSFERRING TRUCKS from one floor to another is easy with this conveyor. Trucks are guided onto a track, and a steel plate mounted under the truck engages the lugs of the conveyor.

THE CONVEYOR is mounted at a 30° angle and is reversible so that trucks can be moved up or down. A 2-hp. motor supplies power to handle two trucks at a time.

Truck CONVEYOR Saves Time, Space, Labor

Synthetics Finishing Co., Philadelphia, had the problem of moving cloth trucks between the receiving platform and a second floor and lacked space for an adequate elevator. The problem was solved with a special conveyor that—

- **Carries two or three loaded trucks at a time**
- **Occupies relatively little space**
- **Cost one-third as much as an elevator**

By ROBERT W. PINAULT, Assistant Editor, TEXTILE WORLD

Synthetics Finishing Co. found itself badly in need of some means of getting cloth from one floor to another in a way that would keep down handling and could still be fitted into its floor space. The Wehle Conveyor Co. designed a conveyor that handles regular mill trucks equipped with special catch plates that engage the lugs on the conveyor. The conveyor is reversible and is used for transporting fabric and supplies such as winding cores and paper that have to be moved in quantity to either floor.

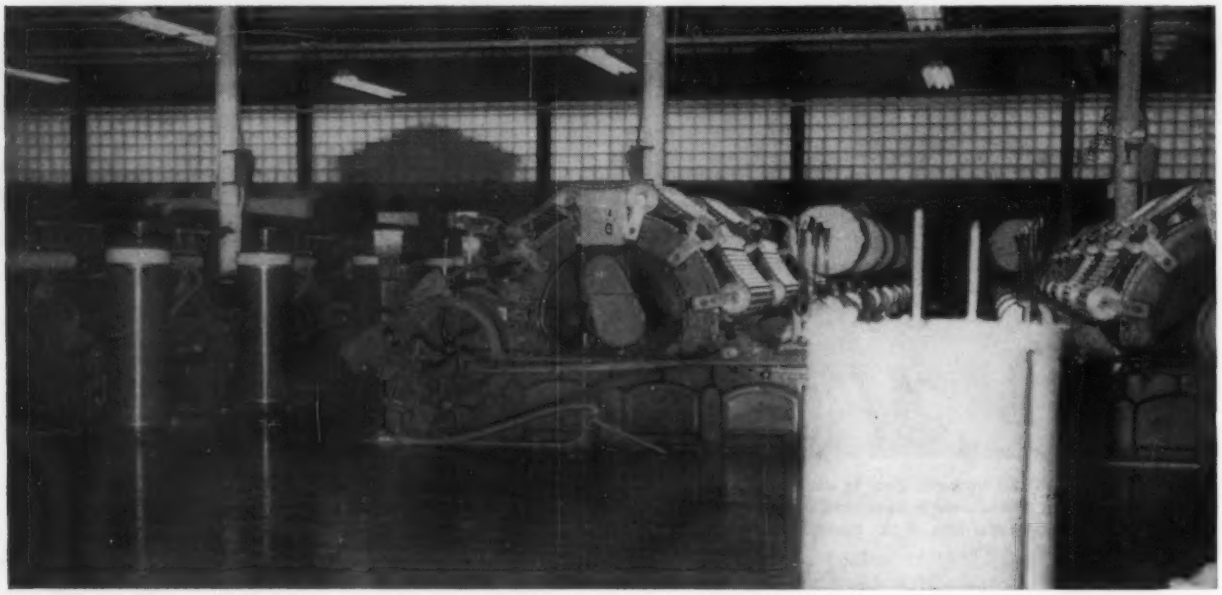
Except for the two steel plates mounted on the bottom of the trucks, there is nothing out of the ordinary in the construction of the trucks. One end is left open for easy loading and unloading, and a rubber-tired caster is fastened to each corner. Two catch plates are mounted, one midway of the bottom and one near the open end. The center plate is rigid, but the end plate can swing inward to make it easier to engage the truck at the bottom of the conveyor when it is moving up.

How It Works

To get goods upstairs, the loaded truck is pushed onto the conveyor, the lugs engage the center plate, and in a few seconds the truck has been delivered to the second floor. Empty or loaded trucks are returned to the lower floor by reversing the conveyor. Guards prevent the trucks from running off the conveyor.

The plant has found that more goods can be moved by the conveyor than could be handled by a conventional elevator, and with less labor cost. Fabric is handled directly from the receiving department to the cloth truck and requires no further reloading into other trucks before examination. After examination, shrinking, or other processing, the goods are packed in cartons that ride down the conveyor in the same regular mill trucks.

Installed at about one-third the cost of an elevator, the conveyor is easily accessible from all directions. Little floor space is needed at either top or bottom of the conveyor, and power requirements are met by a 2-hp. motor.



CARD ROOM in No. 3 mill is free from overhead piping that gathers dirt and is in constant danger of damage. The waste system keeps this room exceptionally clean.

Cotton-Waste DISPOSAL SYSTEM Connects Three Mills to Wastehouse

Since Groves Thread installed a waste-disposal and a card vacuum-stripping system, it has cut waste-handling costs and kept processing rooms relatively clean in its three mills. Features include:

- **One mill 1,000 ft. from wastehouse**
- **Telephone system between card rooms and wastehouse**
- **Underfloor piping in one mill**

By MICHAEL LONDON, Assistant Editor, Textile World

Low waste-handling costs and clean processing rooms have been the fruits of modernization at Groves Thread Co., Gastonia, N. C.

In Nov., 1954, Groves added a waste-collection system and vacuum stripping for cards. The waste system, installed by Abington Textile Machinery Works, collects comber noils, card-fly waste, flat strips, cylinder and doffer strips, picker motes, and dirt from the dust house. The system, tied into three mills containing cards and combers, pulls waste from these mills into the wastehouse, 1,000 ft. away from one of the mills.

Groves Thread produces fine combed thread in soft, mercerized, and glazed finishes in a wide variety of weights that it sells for industrial purposes.

The old roller-stripping method required two men. With vacuum stripping, these two strippers have been eliminated and card tenders strip the cards. Groves reports that card clothing lasts longer and requires grinding at less frequent intervals. The cards are now hand-stripped only before grinding.

Because there is less downtime for stripping, the vacuum-stripping system has given Groves a production increase equivalent to three cards.

Pipe Goes Through Three Mills

Waste is collected by a pipeline that passes through all three mills. A 75-hp. motor driving a five-stage air pump creates the required vacuum in the main line; and leads run from the main line to the individual cards and waste stations in the picker and comber areas.

The second story of the wastehouse has two waste-receiving tanks with sliding bottoms. The tanks are elevated to allow a truck that contains about one-half bale of waste to be rolled under them. When the tank bottom slides open, the waste falls into the truck. The tanks are used alternately; as one is being emptied, the other is receiving waste.

The truck is a tilt type that stands upright as waste falls into it. At the press, the truck is tilted and the waste

falls out into the press chamber where it is baled. The bales then go to the first floor, where they are stored for shipment.

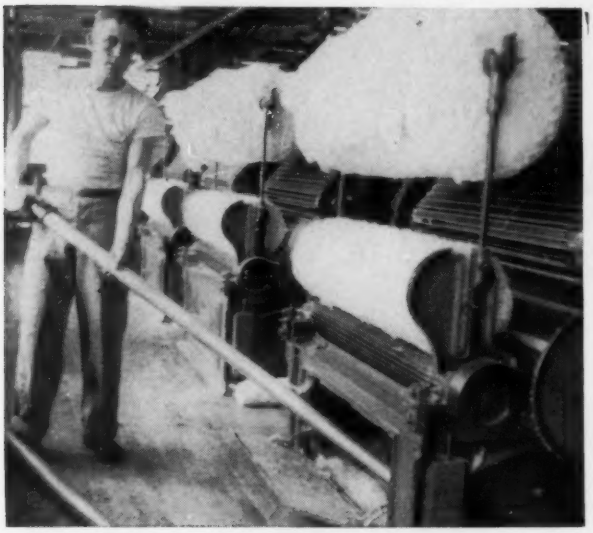
Card cylinders and doffer strips, removed from the card by nozzles that traverse across the card, are sucked into the main line and to the wastehouse. Comber noils, picker motes, and card fly are picked up by a hose connected to a lead to the main pipeline. The dust house is also cleaned this way. Flat strips are collected at central stations where a fixed piping lead pulls the strips through to the wastehouse.

Schedule Separates Waste

Groves uses a time schedule for collecting the different types of waste. Comber noils, fly waste, flat strips, doffer and cylinder strips, and picker motes are collected and baled separately. By phones located in each card room, the processing department tells the wastehouse the type of waste that is going to be collected; and one of the receiving tanks is emptied and made ready to receive the waste.

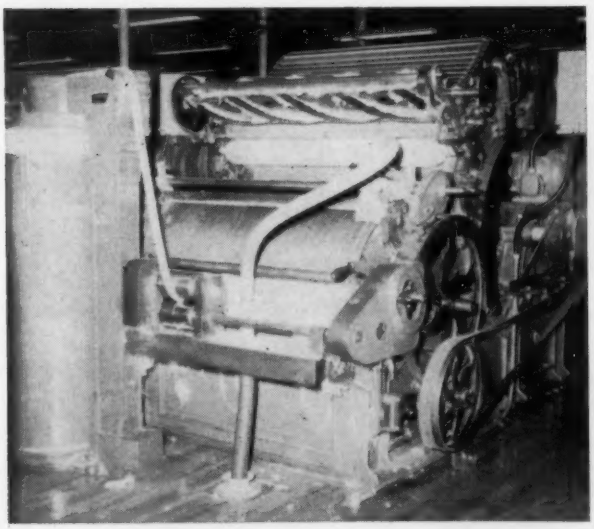
Installation of the waste-collection system has been responsible for savings in waste handling. By the old method, waste had to be collected in boxes and transported by truck to the central wastehouse. Now, one man is required in the wastehouse to collect the waste from the receiving tanks. He empties the tanks, rolls the truck to the press, and operates the press to bale the waste cotton.

In the recently built Groves No. 3 plant, all the piping for waste collection is under the floor; so overhead pipes that became dirty and were in constant danger of damage have been eliminated. Inlets for removing comber noils are in the floor. Flexible pipes run from the cards through the floor to connect with the waste system.



CARD-FLY WASTE is picked up by a flexible hose connected to a lead from the main pipeline. The leads are located in areas accessible to all cards.

FLAT STRIPS are collected at central stations where fixed piping leads pull the strips through to the wastehouse. A phone is used to tell the wastehouse the type of waste being collected.



FLEXIBLE HOSE runs from the vacuum-stripping nozzles through the floor to connect with the underfloor piping in No. 3 mill. Vacuum stripping increased card production 2%.

TILT-TYPE TRUCK receives waste from one of the two elevated tanks in the wastehouse second story. As one of the tanks is being emptied, the other is collecting waste.

NO SECONDS have been made on this section of 120-in. XL looms for several weeks. The overseer shows the weekly seconds report to the weaver and congratulates him.

How One Mill Weaves MEDIUM-WEIGHT FABRICS

More than 10 types or widths of looms in a total of over 1,800 looms are used to weave cotton and staple-rayon fabrics. This large choice of looms is utilized to weave full-width fabrics at standard loom speeds. Close attention is given to little details such as—

- **Shuttle eyes, lining, and bristles**
- **Filling-yarn handling to prevent damage**
- **Relieving tension on filling yarn at the loom**

By RICHARD B. PRESSLEY, Associate Editor, TEXTILE WORLD

A LARGE SOUTHERN carded- and combed-yarn mill is concentrating weaving production on medium-weight cotton and staple-rayon fabrics. Cloths woven are print cloths, sheetings, industrial materials, and converting fabrics.

The mill has over 1,800 looms. The looms are X-2, XL, X, D, and E models. The loom width varies from a 40-in. X-2 model to a 120-in. XL. Loom speeds are normal; for example, 40-in. X-2 looms run at 192 ppm.; the speed of 48-in. X-2 looms is 172; 60-in. E models run at 134 ppm.; and 120-in. XL looms run at 102 ppm.

To weave high-quality cloth at a reasonably high production figure, the management men are concerned with three important points:

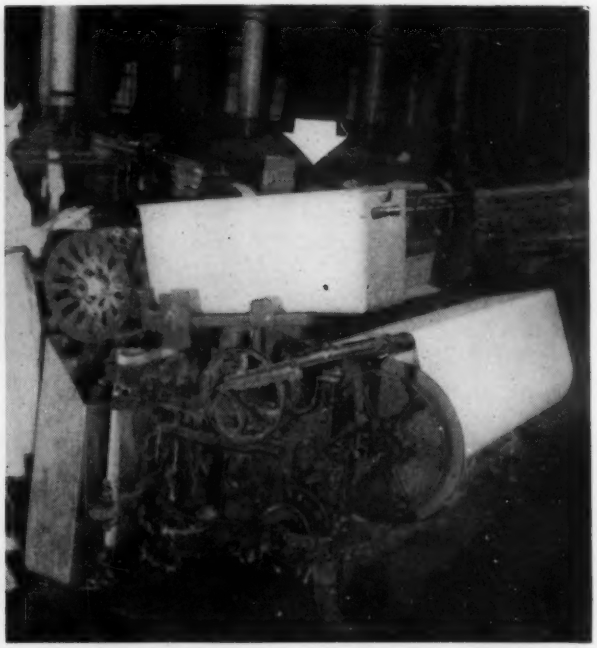
1. They have adequate and properly trained weave-room supervisors.
2. They add new looms as they are needed, rebuild old looms to weave fabrics currently needed, and keep all looms in good mechanical condition.
3. They watch little things in weaving, such as the correct shuttle eye for a given fabric and the proper shuttle fur and bristles for tensioning the filling on each fabric.

All Weaving Space Is Used

The weave room is equipped with a Bahnson air-changing system. The relative humidity on all cotton fabrics is held at 88%. Rayon fabrics are woven at 82 to 83 r.h.

Three types of harness motions are used: (1) Brown spring tops, (2) clock-spring tops, and (3) roll-and-shaft motions. Fabric layouts are scheduled by the width of loom and the harness motion on the loom. For

CLOTH STYLING is a big job, but the 10 widths and models of looms ease the task somewhat. One of the latest models of looms is an X-2 with a clock-spring top.

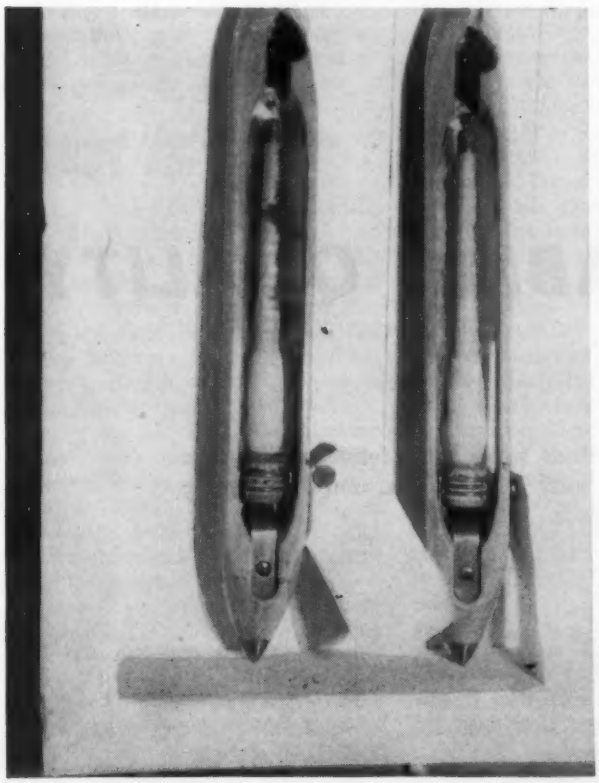


PLASTIC BOBBIN BOX (arrow) is used at the looms to hold cotton filling. The lightweight box, even when filled with filling yarn, is quickly and easily placed on the loom.

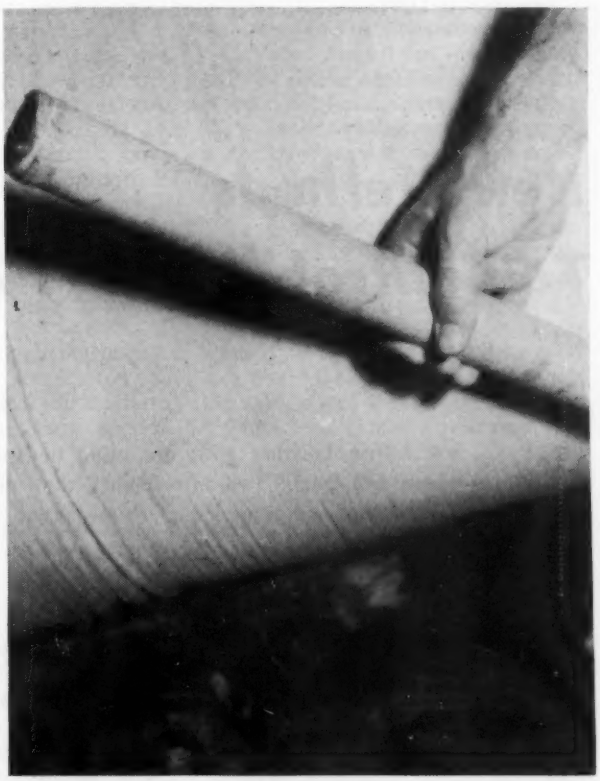
instance, print cloths of the proper width in the range of 30s warp yarns to be woven on two harnesses are woven on 60-in. E-model looms with roll-and-shaft harness motions. Another layout calls for a three-harness drill fabric to be woven on 40-in. E-model looms with Brown harness motions. And so it goes with all looms.

One great advantage in having a variety of loom widths is that each

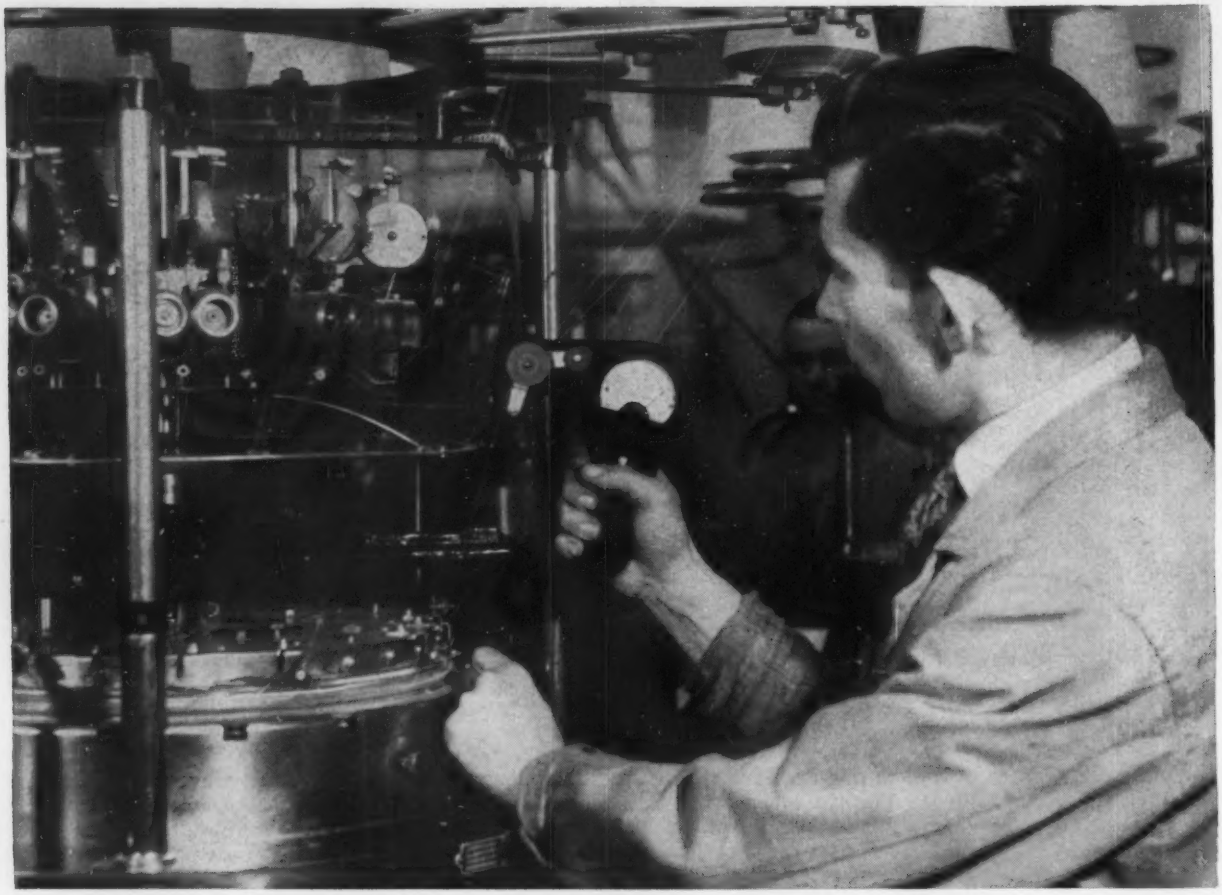
CONTINUED ON PAGE 176



FILLING TENSION CONTROL is insured by placing sample shuttles for each style of cloth in conveniently located cases. Each shuttle is correctly lined with fur and bristles.



WOVEN CLOTH is kept straight and tight at the loom cloth roll by a rubber-covered pipe that slips over the cloth roll. The roll slips out of the pipe easily.



YARN-SPEED METER is used to check the flow of yarn to the needles. Stitch-cam adjustments are made while the machine is running.

New Methods To Control KNIT-FABRIC QUALITY

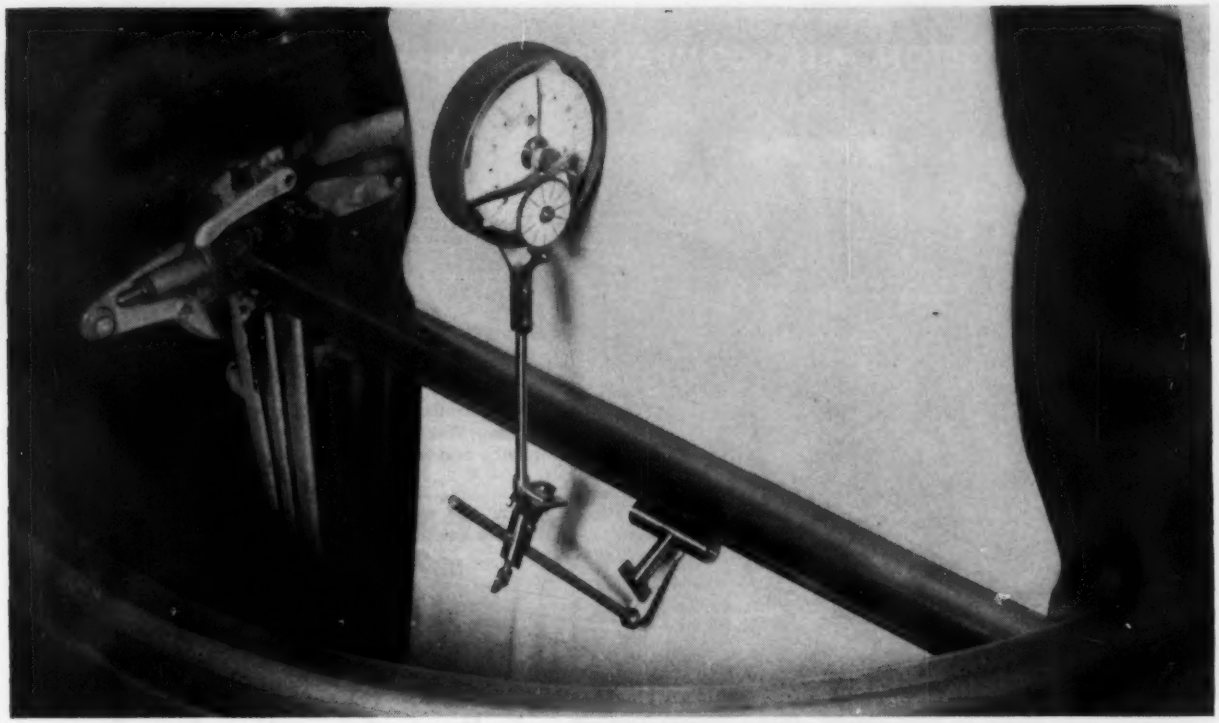
● British knitting mills are using new methods to maintain fabric quality at a constant level. Two instruments that are used to assist the controlling are a yarn-speed meter and a cloth-measuring device.

MANY PRESENT-DAY SYSTEMS of setting up and adjusting circular underwear and outerwear machines are based on a trial-and-error method. This method is usually accompanied by loss in production time. Few aids have been offered to the knitter to help him make precise machine settings.

Up-to-date methods are now being used in British knitting mills to combat these problems with new instruments that have been developed by knitters.

The adjusting of knitting quality, as far as the fixer is concerned, requires two operations: an individual stitch cam is first adjusted to the number of courses per inch required, and then the other stitch cams are aligned to the adjusted stitch cam. This process becomes more tedious as the number of feeds are increased.

Knit-fabric quality, however, is not only determined by the number of courses per inch obtained by a given cam setting. The fabric take-up



FABRIC SPEED is measured by a wheel with a rough surface in contact with the moving fabric. The device helps to control width. The rate of take-up is calculated along with the speed of the machine and the number of feeds. The yarn-speed-meter test and a yarn-number test are also taken into account.

mechanism also influences fabric quality. Both adjustments must be made in stages until the desired quality is reached.

Yarn-Speed Meter Cuts Job in Half

At Cooper & Roe Ltd., Nottingham, England, a yarn-speed meter developed by the Hosiery & Allied Trade Research Association is used to help set up the machines. The device has halved the time required to do the job, and better results are obtained because adjustments can be made while the machine is running.

Under the old system of marking the yarn with an oil-smeared finger, the machine had to be stopped and turned by hand. Now, measuring is done under operating conditions, and the measurement is more accurate and the cloth cleaner.

The mill has found that differences of more than 5% in yarn length per course cause fabric with an uneven appearance.

The instrument consists of a measuring wheel integrating with a battery-powered meter to register yarn speed up to 600 ft. per min.

The yarn between the cone and the yarn guide is wrapped several times around the measuring wheel to prevent false readings from yarn slippage.

A guide pulley takes the initial tension of the yarn. Readings are not taken from the dial until several revolutions of the measuring wheel have been made.

The meter is applied to all yarns running to the needles. Adjustments to the stitch cams are made while the machine is running. Stitch cams are lowered when the reading shows less than that required for the particular quality desired and raised when the reading is high.

The instrument is used not only to equalize the stitch settings on all feeds but also to control the machine-to-machine variation on identical qualities.

The instrument is used on jersey, rib, and interlock machines with rotating cylinders. The job of measuring and adjusting each feed takes from 15 to 60 secs.

Measuring Wheel Checks Fabric Speed

This instrument is used at I. & R. Morley Ltd., Durham, in conjunction with a device that measures the rate of fabric production. As a further measure to greater accuracy in end results, yarn-number tests are made and taken into consideration.

The three measurements are used to set up the machine to determine the correct weight per yard and the width of the fabric. The correct width of the fabric helps the mill to produce fabrics that do not have to be stretched in the finishing operation. The result is more stable cloth with less shrinkage.

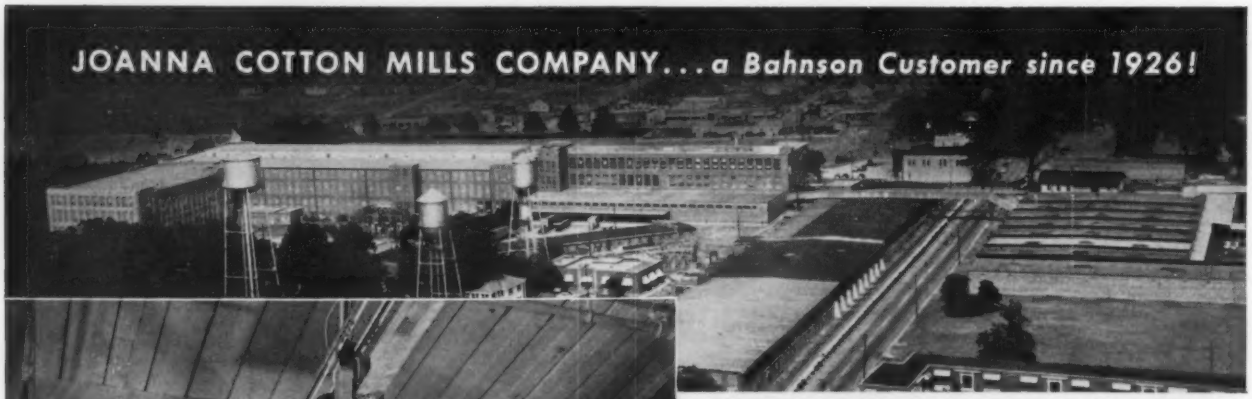
The fabric-measuring device was developed and built by the firm's technicians. A wheel with a rough circumference is divided into units and is driven by the fabric. The device is screwed to the take-up mechanism so that the edge of the wheel contacts the cloth above the take-up rolls.

Movement of the fabric from the needles to the rolls rotates the wheel. The number of revolutions of the wheel are recorded on a dial on the instrument.

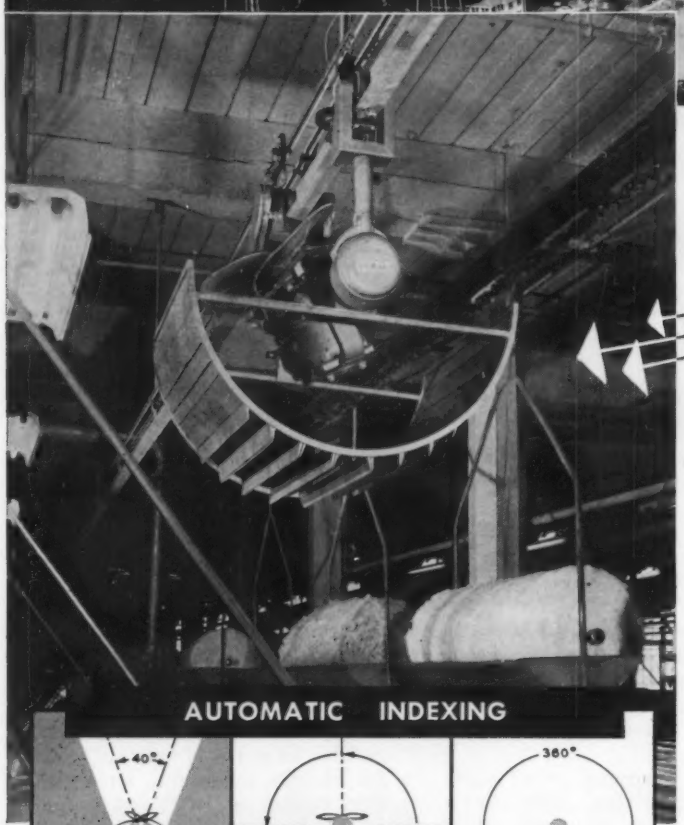
The rate of take-up is calculated with the revolutions per minute of the cylinder and the number of feeds. The take-up roll tension is adjusted according to the previous readings that have given correct results.

Since the mill installed the device, fabric widths have been more uniform. Through the combined results of the fabric-speed measurements, the yarn-testing program, and the yarn-speed measurements, time has been saved in setting up machines.

JOANNA COTTON MILLS COMPANY... *a Bahnson Customer since 1926!*



This prominent manufacturer, a user of many types of Bahnson equipment, reports greater cleaning efficiency and economy with Allred Traveling Cleaners.



ALLRED Traveling CLEANERS

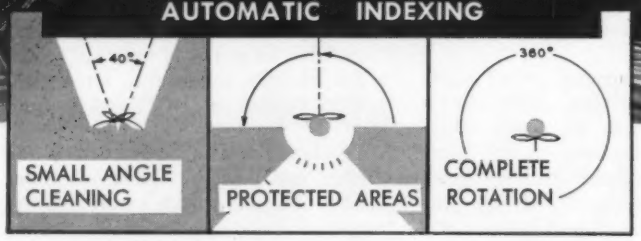
Fully automatic cleaning eliminates blow-downs, improves product quality!

End costly shutdowns for manual cleaning! The new Allred Traveling Cleaner *completely* cleans walls, ceilings, monitors, sash openings, beams . . . all other lint-collecting surfaces in a pre-determined pattern.

Blowing perpendicular to its ceiling-suspended or column-mounted track, the Allred Cleaner completes a circuit at a pre-set angle, then *automatically* indexes to a different air flow direction for each succeeding circuit, the total cleaning arc variable from 40° to a full circle. This directed air blast of the Allred, with its 1/3 horsepower motor, has proved more effective than ceiling cleaners requiring up to 2 hp.

Adjustable U-Shield blades protect card webs or other critical areas from the air blast. This is particularly effective in cotton carding and intermediate areas, and in circular knitting, where it keeps stop motions thoroughly clean.

Get full details on the efficient, time- and money-saving Allred Cleaner, already proved in Joanna Cotton Mills and other leading plants. Or write for information on our complete line of automatic cleaning equipment.



Weekly blow-down of ceilings and machinery in this Card Room have been completely eliminated by the Allred Cleaner, as shown by this unretouched photograph taken after several months of cleaner operation. The ceiling had not been blown-down manually since the Allred installation, and none is anticipated in the future. The cleaner rotates a full 360° to clean the cards, as well as the ceiling and walls. Part of the U-Shield blades are closed to protect the webs.

* **91 OF THE TOP 100**

Of the 100 top textile manufacturing firms in the nation, 91 are users of Bahnson equipment . . . a record of preference that is high testimony to Bahnson engineering skill.

Bahnson COMPANY
WINSTON-SALEM, N. C.

AIR CONDITIONING • HUMIDIFICATION • CLEANING

Checklist for SPINNING FRAMES

- From the machine condition, you can check processing troubles
- From the results, you check the cause and the remedy

By JOHN E. ALLEN

Condition	Result	Remedy
Bands		
Slack	Soft-twisted yarn	Inspect often and replace slack tapes or bands. Make sure new ones are properly fastened
Too tight	More power to drive frame	Use less pressure in tying on new band or sewing on tape
Belts		
Loose Dry Dirty Oily	Belt slips; speed varies; production is lost	Proper cleaning of belts and dressing. More care in oiling head ends
Bobbins		
Cracked	Bobbins set too low on spindles; spindles shake. Weak yarn. High end breakage	Keep spindles free of yarn waste. Replace bobbins with missing rings or metal bottoms
Notches worn	Yarn slubs off in weaving	Check setting of bobbin-stripping machine
Not balanced	Spindles shake. Weak yarn and high end breakage	Check with bobbin manufacturer
Warped	Same as above	Same as above
Builder Motion		
Pitman rolls not turning	Flat places on Pitman roll. Rail runs with jerky motion; poorly built bobbins	More cleaning and oiling
Chain pulleys not turning	Chain pulley wears and rail does not move freely	More oiling
Cams worn	Rail works with jerky motion; poorly built bobbins	Keep Pitman rolls turning
Camshaft worn	Rail works in jerky motion when cam is on the change; poorly built bobbins	Proper oiling
Weights loose and spaced differently on builder cam	Different pressure applied to cam, Pitman roll, and builder	Keep setscrews tight
Cap-Bar Nebs		
Worn or grooved	Poor roll settings; uneven yarn; high end breakage; top rolls wear more quickly	Oil the ends of the top rolls
Loose	Same as above	Keep setscrews tight
Clearers, Top (flat)		
Worn	Top-roll laps; end breakage. Short fibers are not picked up; rolls are spoiled	Pull clearers around a little when frames are scoured. Replace badly worn ones
Flannels missing	End breakage; top-roll laps; spoiled rolls	Do not allow spinners to rub two top clearers together
Bedded	Same as above	Clean with a piece of card clothing. Pull them around a little when frames are scoured

Condition	Result	Remedy
Clearers, (Top revolving)		
Worn	Laps on top and bottom rolls. Spinner has to take off laps; longer to piece up	Replace clearers when they don't pick up fibers as they should
Clearers, Bottom		
Pins too short	Clearer falls on thread board; broken end goes around roll or goes into other ends	If worn, replace. If they are in too far, pull them out
Worn at the ends	Do not pick up broken ends properly. Laps on top and bottom roll	Replace worn ones
Creels		
Out of line	Bobbins do not set straight in creels; strained roving	Keep screws tight. Align top and bottom creels with each other
Cylinders		
Running eccentric	Slack bands or tapes come off before they should	Keep bearings in good condition and cylinders straight
Moving sideways	Same as above	Set collars the proper distance from bearings
Gears		
Teeth broken	Other teeth break; end breakage	Check mesh of gears. Keep clean
Running eccentric	Same as above	See that gears are cast and cut properly. Check for worn studs
Jumping	Rolls run unsteadily; uneven drafting and uneven yarn	Carrier gear between middle and back roll should be meshed properly
Rubbing against front roll	More power required	Neck of middle roll at head end must be kept to standard size
Gear Studs		
Worn	Gears run untrue; back lash; teeth break; ends break	Keep oil holes free of grit, waste, and fly
Too short	Setscrew becomes loose or breaks off. Gear gets out of mesh; ends break	Use gears cut to proper size
Idler Pulleys		
Not in line	Tapes wear quickly and slip off when frame starts	Set all pulleys in line
Dirty	Variations in spindle speed and soft yarn	Keep fly waste away from between idler pulley and brackets
Worn wooden bearings	Tapes come off; idler pulleys run unsteadily	Don't put tapes on too tight
Rubbing on cylinder	Idler pulley and cylinder both become worn	Use correct length of tape. Don't put on too tight

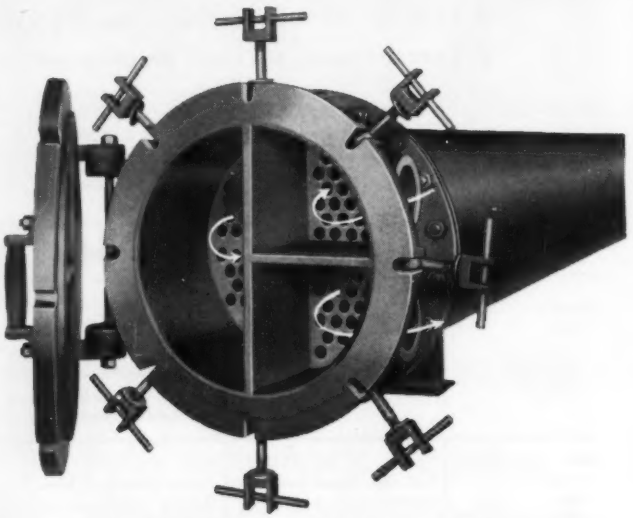
Continued on Page 115

These 3 Finishing Plants...

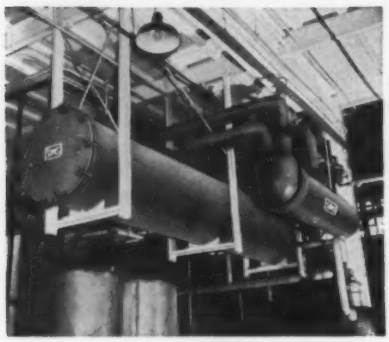
SAVE MONEY

with SIMS HEAT EXCHANGERS

If your process liquors leave your washing, dyeing or mercerizing departments at over 120°F.—better investigate Sims Heat Recovery. Keen textile engineers know that wasted B.T.U.'s represent boiler, fuel and labor dollars down the drain. Linty, contaminated hot waste liquors are no problem to Sims of Erie. Sims Textile Heat Exchangers are specially designed to meet your most difficult conditions. What Sims has done for others they can do for you. Write for copy of Bulletin TE-1W.

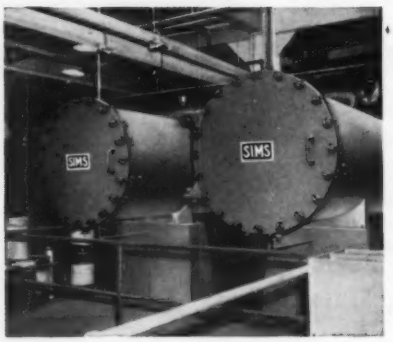


SIMS EXCHANGERS OPERATE ON HOT WASTE WATER



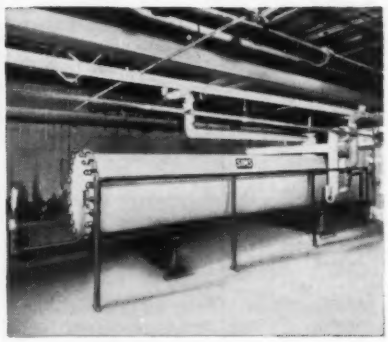
at Pepperell, Ala.

6 large Sims Textile type Heat Exchangers serve bleaching and dyeing ranges and mercerizer. Each waste water exchanger is connected to a Sims booster exchanger using steam to raise temperature of water. Typical of all, is the operation of one, on the dye range, fresh cold water introduced at 72°F. is raised to 136°F. The 6 Sims Exchangers were equivalent to an added 40,000 lbs./hr. boiler.



at Granitville, S.C.

2 very large Sims Textile type Heat Exchangers are fed from a hot waste water collecting tank. An average of 50,000 gallons per hour of incoming fresh water gains 42°F. passing through the exchangers. These 2 Sims Exchangers are floor mounted and serve dyeing ranges and mercerizer to convert waste hot water into usable hot water.



at Clevedale, S.C.

One of 3 Sims Textile type Heat Exchangers serves a mercerizing department. About 250,000 gals. per day of waste water at 175 to 180°F. are passed through this exchanger. Incoming fresh water at 77°F. gained 35°F. at a flow of 172 gallons per minute. Savings on a 24 hour basis amounted to 83,062,500 B.T.U.'s. The 2 other Sims Exchangers operate on bleaching ranges.

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SIMS SINCE 1886

Condition	Result	Remedy
Levers		
Set unevenly	Uneven drafting; uneven yarn; high end breakage	Replace worn hooks that fit into lever screw. Check settings of lever setscrews
Lifter-Rod Bushing		
Missing	Ring rail vibrates when rail is at the top; end breakage	Setscrews must be kept tight and bushing in place
Worn	Same as above	Replace worn bushings when frames are scoured
Line and Level		
Frame out of line	More power to drive frame. Parts wear and break. Poor-running work	Frames should be lined and leveled when they are scoured. Lag screws and packing under samsons must be kept in place
Rails		
Out of line	Rail runs over or under. Excessive waste.	Keep lifter-rod shoes in place and setscrews tight
Warped	Same as above	Repair broken rails
Rings		
Loose	High end breakage; uneven ballooning of yarn; uneven wear of ring	Plate holders must be made to hold rings tight. Screws should hold ring holder in place
Grooved	Excessive end breakage. Travelers break off	Grooved rings should be replaced. Set thread guides over spindle
Cracked	Same as above	Holders should not be too tight. Don't hit rings too hard in putting them in holders
Set at different heights	High end breakage. Travelers break off	Check setting of ring holder to ring rail. See that setscrews are kept tight
Roving Rods		
Rough	Chafed roving	Smooth off in scouring
Set too low	Strained roving	Brackets must be kept in place
Roving Traverse Motion		
Short stroke	High end breakage. Grooved and damaged top rolls	This motion is very important. It should be checked often
Dwell at the ends	Same as above	Same as above
Roving Trumpets		
Blocked	Strained roving and uneven yarn	Check the following: top clearers not picked often enough, bunches in roving, waste on roving rods, fly waste on full roving
Bent	Roving runs to outside of roll; end breakage	More care by the operators
Saddles		
Worn	Uneven drafting and uneven yarn	See that all oil wicks are in place. Check oiling
Back saddles put in the wrong way	Uneven yarn; levers rest on backboards	More care by the spinner
Separators		
Burred	Chafed yarn	Smooth when seen
Blades missing	High end breakage	Keep setscrews tight so separators won't extend beyond ring rail
Not spaced properly	Travelers break off. High end breakage	Keep setscrews right on separator bracket
Steel Rolls		
Running eccentric	Uneven and weak yarn; high end breakage. Levers, lever screws, and stirrups wear	Check for worn necks and squares stands not in line. Level and use care in lifting rolls in and out at scouring. Large laps on bottom rolls can spring them
Scratched	Roll laps; high end breakage. Leather on top rolls becomes rough	Do not allow spinners to use steel hooks or knives in removing steel roll laps
Grooved	Uneven drafting	See that thread guides are not left up after doffing
Dented	Uneven and weak yarn; roll laps; high end breakage	Do not allow spinners to hammer top rolls on steel rolls in removing roll laps

Condition	Result	Remedy
Skewers		
Dull	Stretched roving; weak yarn; high end breakage	Repoint skewers on emery wheel, not with knife
Waste bound	Same as above	More cleaning
Sticking through top of creel	Stretched roving; roving breaks back	Keep top creels level. Do not use skewers of different lengths
Spindles		
Bent	Soft-twisted yarn; weak yarn; high end breakage	Care in pulling off bobbins
Shaky	Same as above	Check system of oiling. Check bolsters and spindle points for wear
Off center	High end breakage. Loss of production because bobbins cannot be built to largest diameter	Reset spindles when frames are overhauled
Worn spindle whorls	Excessive twist in yarn	Whorls should be replaced
Broken clutches	Shaky spindles and soft-twisted yarn	Keep clutches free of waste. See that bobbins fit properly
Stirrups		
Worn	Levers set at different heights; uneven tension is applied to top rolls; uneven yarn	Replace worn stirrups when found
Not set properly on front saddle	Same as above	See that all adjustable screws are in place. Make sure spinners put saddles in proper position
Tapes		
Crossed	Tapes run against the lap and wear quickly	Keep tapes straight when you put them on spindle
Dirty	Tapes slip off idler pulley when frame is started	Check to see if underparts are cleaned often enough
Thread Guides		
Grooved	Holds yarn too rigidly; takes elasticity out of yarn. High end breakage	Replace grooved guides
Not set over the spindle properly	Uneven ballooning of yarn; uneven wear on ring; high end breakage	See that none are loose or bent. Reset in overhauling
Top Rolls		
Grooved	Uneven drafting; uneven yarn; poor-running work	Prevent short roving-traverse stroke and hard ends in roving. Have system of changing rolls
Fluted	High end breakage	Don't have top rolls exactly the same diameter as the bottom. Don't use different thicknesses of flannel
Loose cots	Poor-running work; uneven drafting; cockled yarn	Cots must be put on tight enough. Burn ends of cots properly
Running against the piecing	Piecing becomes rough; roll laps; rolls do not last as long	Spinners should put rolls in the proper way
Travelers		
Worn	Rings wear; high end breakage	Change travelers more often
Too heavy	High end breakage	Run tests to find the traveler that should be used
Too light	Ends whip together and cause end breakage	Same as above
Traveler Cleaners		
Missing	Allows waste to gather on traveler, and end will eventually break	Replace missing ones
Not set properly	Same as above	Check setting in overhauling
Weight Hooks		
Set on different notches	Different pressure applied on top rolls; uneven drafting	More care by spinners in putting hooks on levers
Long-Draft Aprons		
Stretched	Aprons rub against rolls; uneven drafting and uneven yarn	Replace aprons
Waste inside	Apron slippage; uneven yarn; high end breakage	Inspect and clean when frames are scoured

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How To Get the Most out of WHITIN QUILLERS

- **Put a man on the quillers to flag bad spindles for the fixer. This man can tell the fixer exactly what the spindle is doing**
- **A thorough study of bad transfers and defects helps the foreman know what is happening to his spindles**

By ERNEST R. BECHNER

FILLING STOPS are the largest source of weaving-efficiency loss; and, directly or indirectly, the majority of cloth defects stems from filling troubles. The quilling department is the logical place to begin work on the filling problem.

The high cost of quilling cannot be corrected by simply bringing more pressure to bear on a fixer. The fixer doesn't have time to stand around watching spindles transfer. When the operator flags a spindle, the fixer still has to know exactly what it is doing before he can fix it. And the operator doesn't have time to watch for faulty transfers to see exactly why they were incomplete; she simply restarts most of the spindles and flags the worst ones.

So why not put a man there to pick out the bad ones and flag them for the fixer? He can tell the fixer exactly what the spindles are doing.

The man should first get the permission of the department head and ask him to explain to the fixer and quiller hands the purpose of the studies. The foreman can explain that almost anyone who knows quilling could do what the observer is about to do if they had the time; but since they have their own work and are very busy, the observer has been given the job to do. His objective is not to show them up; it is to bring conditions to their attention that they would have already corrected if they had known the conditions existed.

Make Inspection

For a thorough job, the observer can handle about 15 spindles at one time. On a study form, he should list spindle numbers down the first column and elsewhere list yarn lot and twist, supply package, type of quill, operator, and any other pertinent information. He should begin by making an inspection and using an inspection form for recording what he finds. The inspection should be made about as follows:

Broken filaments: Using a flashlight, inspect several quills from each spindle. Broken filaments indicate rough guides, which must be replaced, or bad yarn, which must be pulled out of production.

Smooth, uniform picking: Shine a flashlight, with the light at an oblique angle, on each quill running. Rough contours or ridges indicate (1) a worn picking pawl, (2) ratchet stop not meshing properly with teeth on pick gear, or (3) pick wheel with too few teeth for the type of yarn.

Uniform start-ups, same distance from butt: Loomfixers set feelers from butt distance, and any deviations cause run-outs in the shuttle or filling breaks on the bunch. Uneven start-ups can come from a worn rubber washer in the chuck, waste in the chuck, and uneven quills.

Uniform knock-offs, same distance from tip: Knock-off distance is one of the factors controlling average quill weights, cycle times, and other things. Quills too full cause bruised yarn in magazines (more loom stops); quills doffed too short inflate piecework earnings, increase magazine hands' workloads, and so on.

Bunch completely covered, half covered, or completely exposed: The type of yarn, necessary conditioning, and running characteristics in the looms determine the bunch cover. Any deviation from established requirements causes trouble.

Feeler roll turns freely: A free-turning feeler roll is necessary to avoid chafing yarn and for a smooth, satisfactory quill.

Feeler-roll tension light: A heavy tension causes a soft shoulder and sloughing in the shuttle; it also wears rough the surface of the feeler roll itself.

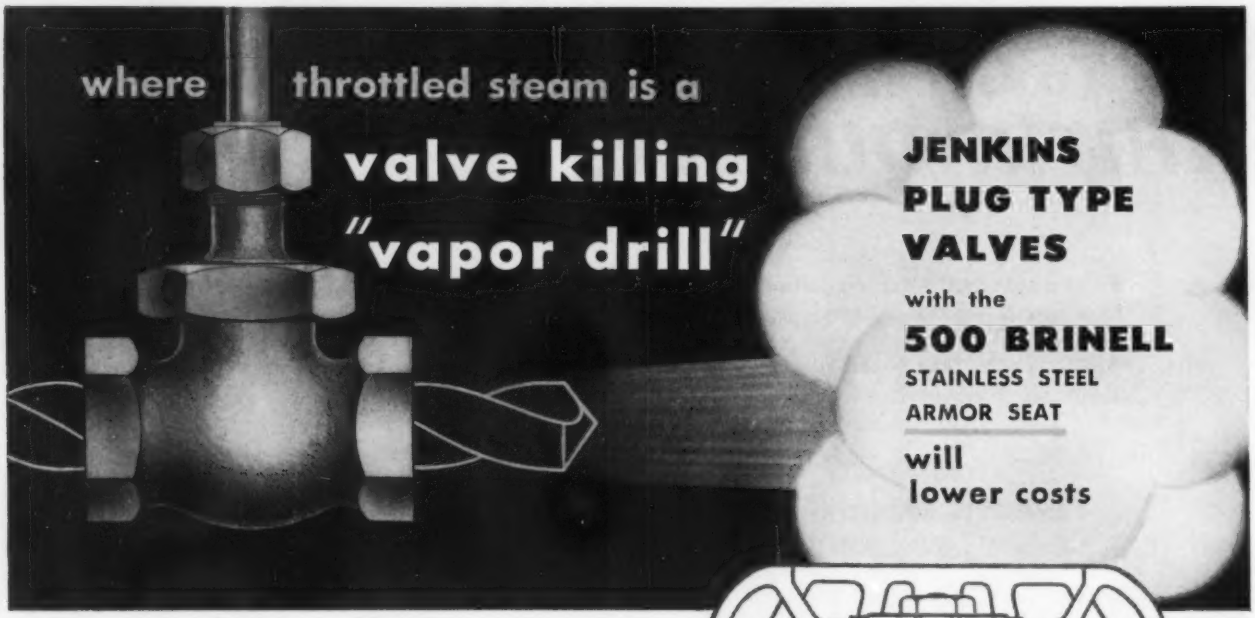
Traverse guide lays yarn properly: At the back of its stroke, the traverse guide should lay the yarn $\frac{1}{8}$ in. from the back of the feeler roll, or not past the high point of the feeler roll. A bent traverse guide can throw the yarn too far forward and cause soft shoulders and sloughing off in the shuttle.

Compensator wire proper size: Compensator wires are made in several sizes; and under the proper quilling tension for each one, the wire will ride approximately in the middle of the loop on the knock-off arm. In this middle position, the wire will compensate for much of the tension variation caused by the oscillating motion of the traverse guide. If the wire rests against the front or back of the loop, it doesn't effectively perform its function.

Front and back taper alike and straight: The cop former at the back

12 Requirements for Good Winding

1. Good filling yarn, properly treated and conditioned
2. Adequate stock of repair parts and good maintenance
3. Smooth, straight quills with uniform dimensions
4. A good inspection procedure
5. Temperature and humidity control
6. Conscientious operators
7. Adequate yarn-supply service
8. Proper workloads
9. Accurate and fair piecework rates
10. Adequate fixing by skilled and properly paid fixers
11. A good system of reports, not too cumbersome
12. Good supervision



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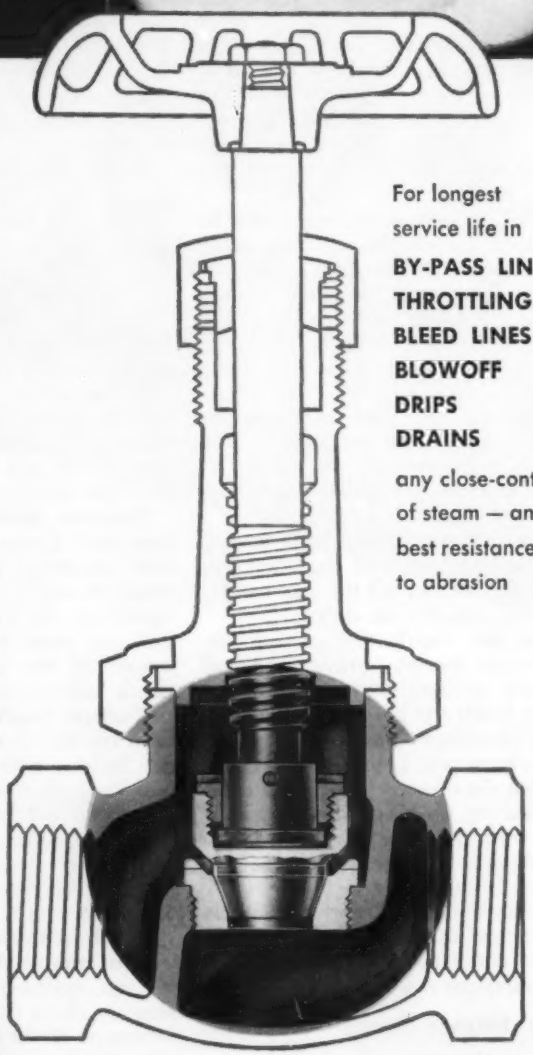

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end of the picking bar must be set to give the same length of back taper as the traverse guide makes at the front. If the front taper is not straight, the traverse guide motion is usually restricted; sometimes the picking-motion cover is not replaced properly.

Sides parallel and straight: A hollow wind in the center usually means a weak spring, which returns the traverse guide to its front position. Deviations from standard procedure at this point are obvious and usually are corrected promptly.

Correct diameter of wound yarn: Diameters seem to creep sometimes at different points of a wound bobbin; and if they are not corrected, they lead to broken picks, tight picks, kinky or snarled filling, tight selvages, loose picks, etc.

Tail cutters operating: The tail cutter is supposed to cut about 95% of the tails. If it doesn't, something is wrong; loom stops are increased and magazine hands are slowed.

Soft nose at barrel of quill: A soft nose causes sloughing off in weaving. Usually, it is caused by something that restricts the motion of the traverse guide; sometimes the picking motion cover is not replaced properly.

Too much backwind: Three to five wraps should be ample for crepes. Flat, less-lively yarns require fewer wraps. Too many wraps of backwind increase the magazine hand's workload.

Cut guides and tension posts; rough traverse guide and feeler roll: Check these items with a sharp knife blade. Cut or rough surfaces must be replaced; otherwise, the yarn will be chafed, tension will increase, and filling stops in weaving will occur.

Aligned supply packages: Supply-package holders are easily knocked out of alignment. Out-of-line packages increase yarn breaks, stretched filling, etc.

Quill-end (tip) bearing running smoothly and cool: When this bearing assembly is set properly for a particular length of quill and is lubricated according to specifications, it should not give trouble. The setting and lubrication must be checked to avoid damaged quill tips and improper wind of the filling and to protect the bearing itself.

Record Transfers

When the inspection has been completed and the results noted, the observer is ready to observe and record each transfer—complete or incomplete and the reason. Next, he should empty all quills from delivery troughs or trays and see that the operator has an adequate supply of empty quills and yarn.

He should proceed, using a form to record everything that happens. When the fixer works on a flagged spindle, the observer should indicate such work in the appropriate column with a red pencil so that he can tell if the spindle repeats the defect.

Here are the various reasons for incomplete transfers:

Faulty magazine delivery to quill carrier: Sometimes the empty-quill magazine gets out of adjustment (loose setscrew) and doesn't drop an empty quill down the upper quill chute. Unless a quill is placed manually in the carrier, the next transfer will be incomplete.

Quill carrier misaligned: Careless fixing or hanging a quill on the transfer can throw the carrier out of alignment. In this case, the quill is out of line with the chuck and quill-end bearing and the thread is not grasped between the quill butt and chuck; as a result, the compensator knocks off.

Chuck hits butt of quill: In this case, the chuck motion is usually restricted by waste around the chuck bearing or the spring inside the gear box is unhooked or weak.

Chuck returns late and releases thread: Here again, waste can cause binding in the chuck bearing. But more likely the trouble is in the gear box.

Rubber bushing in chuck worn; releases thread: When the rubber washers wear out and lose their resiliency, they have to be replaced. This trouble is frequently mistaken for the scissors cutting too early.

Compensator knocks off at transfer: This trouble usually is within the gear box, and it takes a very few minutes to fix. Perhaps the knock-off rod or the catch on the starting handle is not set properly.

Compensator inoperative; does not knock off: This trouble likewise can be in the gear box, or it can be an improper setting of the catch on the starting handle or the knock-off rod.

Transfer is sluggish and uneven: A sluggish transfer is a creeping situation that has gone too long already. The unit should be removed from production for rebuilding.

Scissors thread guides miss: Two causes are not enough backwind and thread guides broken or bent.

Scissors not cutting; dull: The cutting surfaces can be rehoned and lapped with the proper equipment and skill. Many companies simply replace them.

Scissors not cutting, nicked: Nicked scissors are usually caused by carelessness somewhere along the way. The parts must be smooth to function properly.

Feeler roll set too close; cuts yarn: Allow 3/32-in. clearance between the barrel of the quill and the feeler roll. The feeler roll should begin advancing as soon as the bunch is completed.

Feeler roll set too far away: This improper setting will give an abrupt build-up at the butt of the quill. When the filling is steamed, the yarn loosens and later rolls back behind the abrupt build-up; and filling breaks are caused.

Traverse mechanism binding, not returning properly: Waste, improper lubrication, and a weak spring can cause this binding. The binding can cause the full quill to hang, or too much backwind might be put on.

Thread-catcher finger misses; not enough backwind: This missing will happen with lively yarn. The finger also can be rough and hang the yarn.

Thread-catcher finger misses; sticking: Waste, improper lubrication, and a bent rod can cause this sticking.

The 16 defects above are the most prevalent; but with further experience, additional causes of incomplete transfers will be noticed, such as short or long quills and warped or crooked quills.

The observer should record with a tally mark in a separate column each replace-supply, break, and doff. He should observe every transfer closely. For efficiency calculations, he needs to record every quill completed. So faulty transfers actually are recorded twice, once in the doff column and once in the appropriate fault column. Studies of about 2 hrs. duration are recommended, particularly for 75-den. yarns and heavier. For finer deniers, where cycle time is longer, perhaps more than 15 spindles can be checked simultaneously; certainly the study should be longer.

Flag the Fixer

As trouble spots begin to show up, the observer should flag the fixer. He should remember, though, that the fixer has to run the remainder of his job too. He should leave some of the work for the foreman to assign to the other shifts.

After completing the study, the observer should make the efficiency calculations, totals, etc. with no delay so that he can go over the study with the foreman. It is of prime importance that the foreman know exactly what is happening to his spindles so that he can rearrange work schedules to get his machines fixed.

The important step comes next: follow up to see that the necessary work has been done. The follow-ups need not be full-length restudies; they should continue only long enough to be sure that the faults have been corrected.

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POINTERS for SUPERVISORS

How Encouragement Works

● With the right person at the right time, a few words of encouragement can work wonders. With another person under other circumstances, it can lead to misunderstanding and hard feelings.

● Why the difference? Why doesn't this human-relations tool always work? Here's an explanation that can help you put it to use effectively.

By AUREN URIS, Research Institute of America

The new employee had been on the job for only a week, but Supervisor Jim Harrison smelled trouble. It wasn't just a case of the man not making out too well. More important, Harrison could tell from the man's expression and listless manner that his enthusiasm for the job had worn off.

A brief conversation with the employee quickly told Jim Harrison what was wrong. The employee put it very simply: "I know I'm not making good."

With a few words, Harrison put the man's accomplishment in better perspective: "This is a tough job, Tom, and I don't expect you to master it overnight. Actually, you're doing a good job, much better than most beginners. I'm positive that if you stick with it, you'll get the hang of it in a couple of weeks. Eventually, you'll be as good as the best of them."

The record proved Harrison to be right. Tom did make good on the job and soon became one of the better operators in the department.

Another Case History

But here's another thumbnail case history. Although some of the same elements apply, the ending is considerably different:

Supervisor Ed Smith felt that Hank Jones had been doing a poor job for some time. "A little encouragement will go a long way to remedy the situation," thought Smith.

At an opportune time, he cornered the employee: "I notice you've been a little down in the mouth lately, Hank. We all have our ups and downs. Now, I know I don't have to tell you that you're headed for big things in the department. In six months or a year, you should be sitting pretty . . ."

"Can the pep talk," said Hank and walked away.

Later on, the facts became clear. Hank's attitude had taken a nosedive because he was dissatisfied with his assignments. He felt others were getting preferred treatment while he was getting the leftovers. Eventually, he voiced a series of complaints about the way he had been treated and asked for a transfer.

Why did encouragement work in the first case but fail miserably in the second? For this simple reason:

Supervisor Jim Harrison knew that encouragement can be an important human-relations tool and knew how to wield that tool. Supervisor Ed Smith apparently knew that encouragement could be effective but didn't know enough to use it properly.

The Psychology of Encouragement

Encouragement can work miracles if you know how to use it. It's a psychological shot in the arm, a stimulant without any hangover—if you know how to avoid the pitfalls and don't try to use it at the wrong time, on the wrong person, under the wrong circumstances.

Supervisor Smith, for example, was wrong in trying to encourage a man whose difficulty was dissatisfaction with his job. True, the basic effectiveness of encouragement lies in its ability to change a mood or an attitude. But the reason for the mood or attitude can only be of one particular kind—loss of self-confidence on the employee's part—if encouragement is to be effective.

But, in the case of Ed Smith and his fumbled use of encouragement, his employee was falling down on the job because he resented what he considered to be unfair treatment. Encouragement was as inappropriate as trying to hit a homer with a tennis racket.

What might have worked with that discontented employee was a talk that gave Hank a chance to tell his story and get a load off his chest.

Another case where encouragement would be wasted effort is that of the long-time failure. If an employee has lost his confidence in himself because he's had trouble meeting standards over a long period, it would be wise to investigate the circumstances for his failure. If, for example, he hasn't received enough training to do a satisfactory job, you'd want to remedy this oversight, rather than try to improve his performance by use of encouragement.

In brief, encouragement is effective when it helps an employee increase his feeling of confidence and adequacy. When he sees that you believe in him, it's easier for him to believe in himself.

CONTINUED ON PAGE 170

$3,500 for a spot on the new draperies...

The scene: A modern textile factory. Giant looms roar lustily, eating up miles of brilliant yarn, producing miles of beautiful new fabrics. In every loom, moving parts speed in a blur, faster than the eye can follow—and therein lies a story. For to lubricate those flying parts is a ticklish business.

On a single loom in a southern mill, for example, high speed gears overheated. The machine had to be stopped for lubrication, which was costly. But even worse, old-style lubrication resulted in stained fabric, no matter how careful the oiler was. Cost: Product spoilage over $3,500.00 a year—on just one loom.

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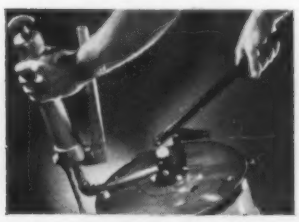
This is typical of the assistance Alemite offers industry. Whatever you manufacture, whether your plant is large or small, chances are an Alemite system or Alemite equipment can save you money. And expert lubrication counsel is yours at no cost or obligation whatsoever. Wherever you are, there is an Alemite representative ready to serve you.



Here, an Alemite loader pump is being used to fill a grease gun. The saving over hand methods is 15 man hours for every 400 pound drum of lubricant used. Further, only clean lubricant reaches bearings, maintenance costs go down, and housekeeping is easier.

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EQUIPMENT and SUPPLY NEWS

Double-Doffer Garnett

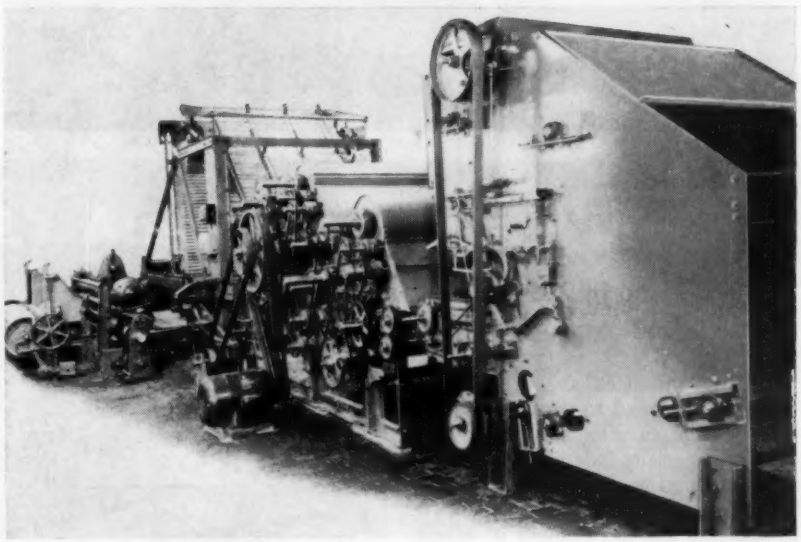
Proctor & Schwartz, Inc., Philadelphia, Pa., has announced a high-speed garnett machine, No. 700, for the production of batting made from cotton, cotton waste, linters, wool waste, jute waste, rayon, and other synthetics.

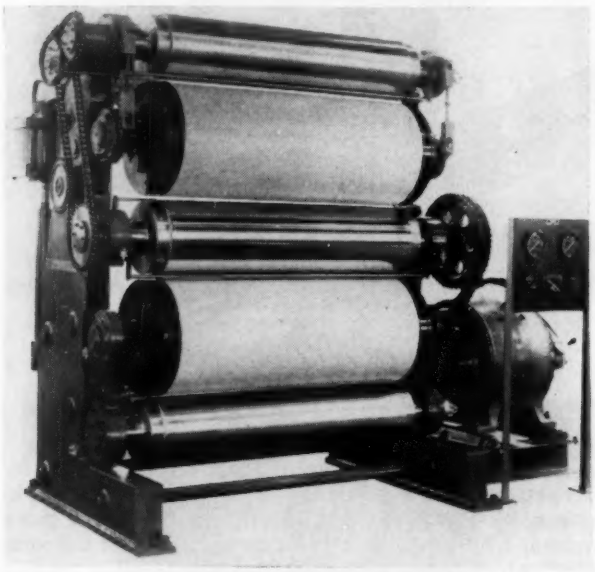
The new machine employs the double-doffer principle of using an additional intermediate fancy between the upper and lower doffer. This arrangement is said to give a more-uniform web on the lower doffer and to keep the main cylinder clear of fibers.

The garnett has a 20-in. first and a 30-in. second main cylinder with an 11-in. fancy over each. All three doffers are 20 ins. in diameter, and the workers and strippers are all 6 ins. in diameter. The lickerin is 16 ins., and the feed rolls are 4 ins.

Production on average-run mattress batts is 400 to 500 lbs. per hr.; on jute it is as high as 700 lbs. per hr.

The 15x32½-ft. garnett, with accessories for making an 84-in. lap, occupies a floor space 15x32½ ft. (T-1)





Open-Side Calenders

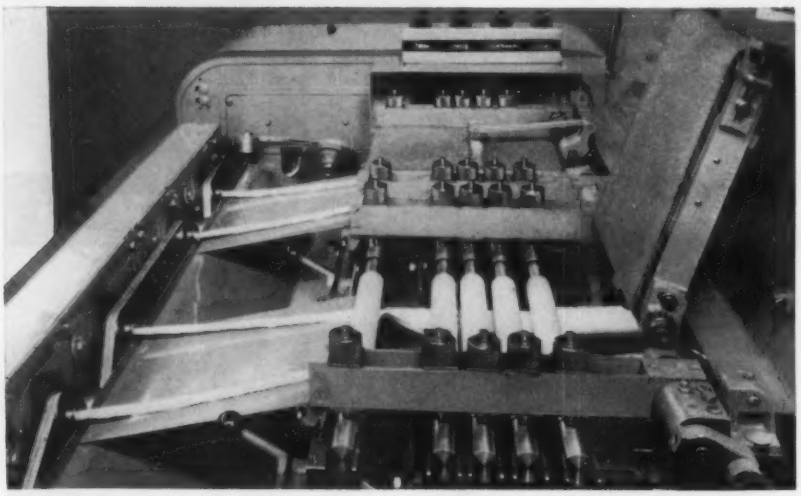
Textile Machinery Div., McKiernan-Terry Corp., Dover, N. J., has developed a series of multiple-roll calenders of open-side construction. Versatility of the design permits the machines to be used for rolling, friction, schreinering, and embossing purposes.

Easy roll removal and compactness permit operation in restricted space. Bearing design and placement permit unusual latitude in turning down the rolls.

Air-cushioned loading assures quiet operation at all speeds, together with protection for the rolls.

The calenders are supplied in 15- to 60-ton capacities in three-, four-, and five roll types. (T-2)

DO YOU WANT MORE INFORMATION? At the end of each item is a symbol consisting of the letter "T" followed by a number. If you wish additional facts about any item, circle the corresponding symbol on the Reader-Service post card, page 155, and mail the card to us.



Frame for Split Sliver

A drawing frame with revolving trumpets for split sliver has been announced by Deutscher Spinnereimaschinenbau, Ingolstadt, Germany.

The frame is designed to be used in connection with split combed sliver that tends to produce a false draft because of its instability. The revolving trumpet gives the sliver a false twist and makes it go in and out of the can easier.

The frame is designed for easier cleaning and oiling. Surfaces are machined smooth. Construction is sturdy. Floor space occupied is about the same as for any conventional frame. **(T-3)**

Shuttle-Changing Loom

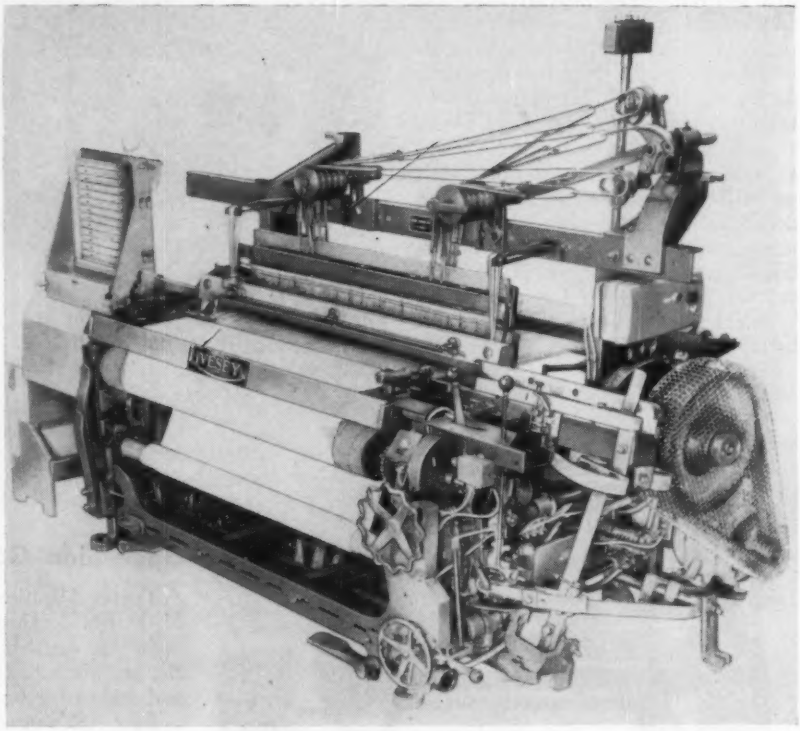
Henry Livesey Ltd., Blackburn, England, and S. E. M. Auto Looms Ltd. have produced a shuttle-changing loom designed to weave synthetic fibers. The shuttles are made with features specially adapted to weave filament-rayon yarns.

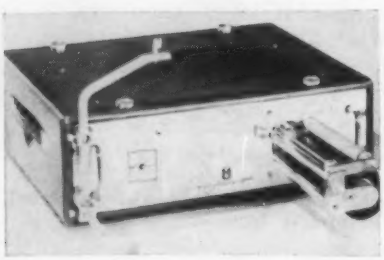
An electric feeler is incorporated to indicate shuttle changes at filling run-outs. A positively driven take-up and an automatic let-off are said to work together to weave an even-textured fabric.

The loom is stopped at both warp and filling breaks before the reed reaches the fell of the cloth. A simple slow-running reverse motion makes pick finding easy.

The loom can be fitted with the normal harness motion of six harnesses or with the side-cam dobby with 20-harness capacity.

Other features are (1) the bearings do not require oil, and (2) nylon picking rolls are used. **(T-4)**



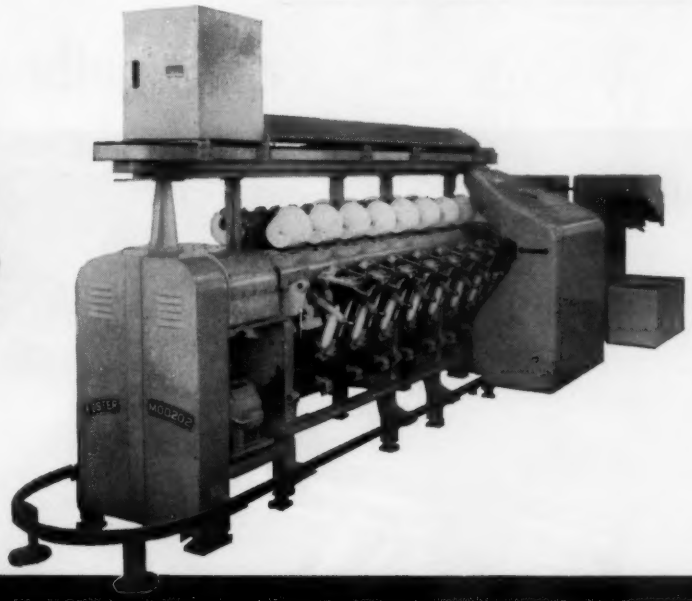


Yarn Rewind

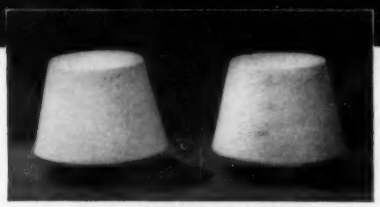
A yarn rewind, engineered for accurate mill-to-mill evenness comparisons, has been developed by Brush Electronics Co., Cleveland, Ohio.

The new instrument, which can be used with any electronic evenness tester, extends the usefulness of these instruments. The yarn rewind pulls the yarn through the tester at 5 ft. per sec. and winds the test sample on a standard paper tube. The process allows the same length of the yarn to be retested for checking equipment or obtaining more-accurate evenness data for comparisons between mills. **(T-5)**

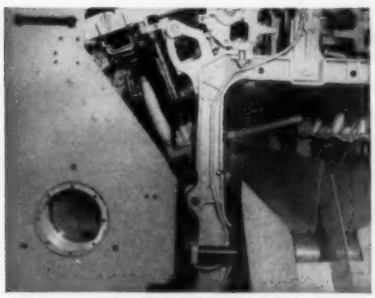
FOSTER MODEL 202



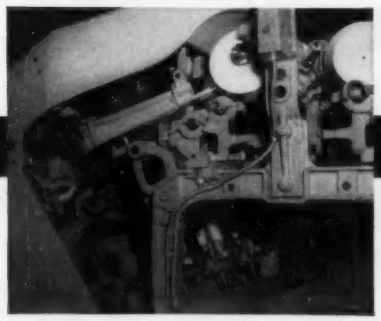
...The ONLY Automatic Cone Winder Which Gives You QUALITY with QUANTITY



Model 102 and Model 202 cones.



Full bobbin moving into supply position and empty bobbin being doffed to conveyor.



Looking into automatic tender and showing aspirator which sucks up loose end from cone.

Look at the two cones illustrated. They appear identical because they *are* identical. Yet one was wound on the Foster Model 102 and the other on the Foster Model 202. Enough said, perhaps, since Foster Model 102 cones have been the standard of quality in the knitting industry for many years.

KNITTABILITY of cones is an exclusive feature of the Foster Model 202. So why look elsewhere when the Model 202 also gives you all the other features you want as follows? —

- INCREASED PRODUCTION PER OPERATOR — between 100% and 300% over non-automatic winders.
- AUTOMATICALLY positions supply, locates and ties ends down (in weaver's knot), doffs bobbins, conveys empty bobbins to one bin and partially filled bobbins to another.
- ONLY DUTIES OF OPERATOR are to put full bobbins in chutes, put loose end in clip, don and doff cones and thread up new cones.
- PAYS FOR ITSELF in 2 to 5 years.

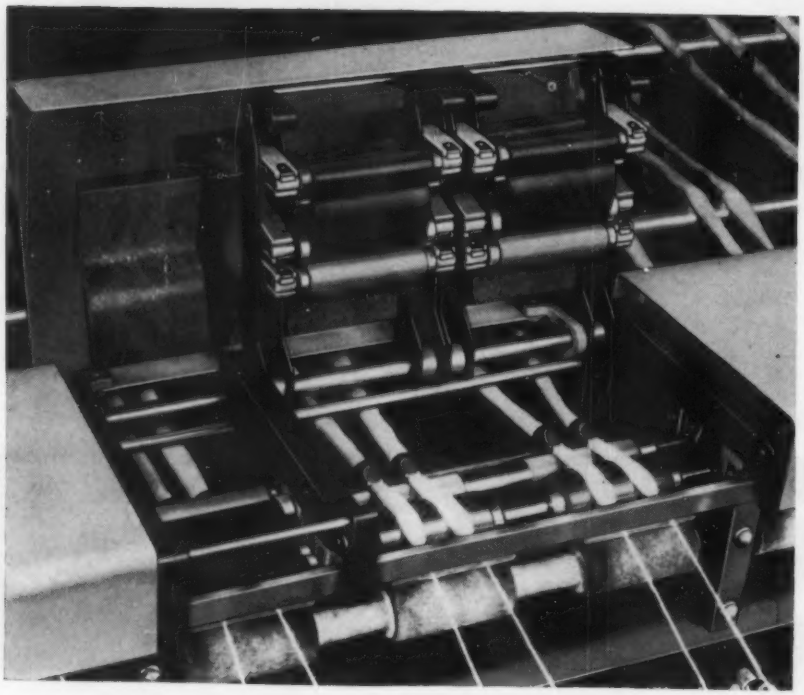
Get ALL the facts. *Write for Bulletin A-100.*

FOSTER MACHINE COMPANY

A Winder for Every Textile Purpose

Westfield, Massachusetts, U.S.A.

Southern Office — Johnston Bldg., Charlotte, N. C. • Canadian Representative — Ross Whitehead & Company, Limited, 1475 Mountain St., Montreal, Que. and 35-37 King St. W., Toronto, Ont. European Representative — Muschamp Textile Machinery, Limited, Keb Lane, Bardsley, Oldham, England.



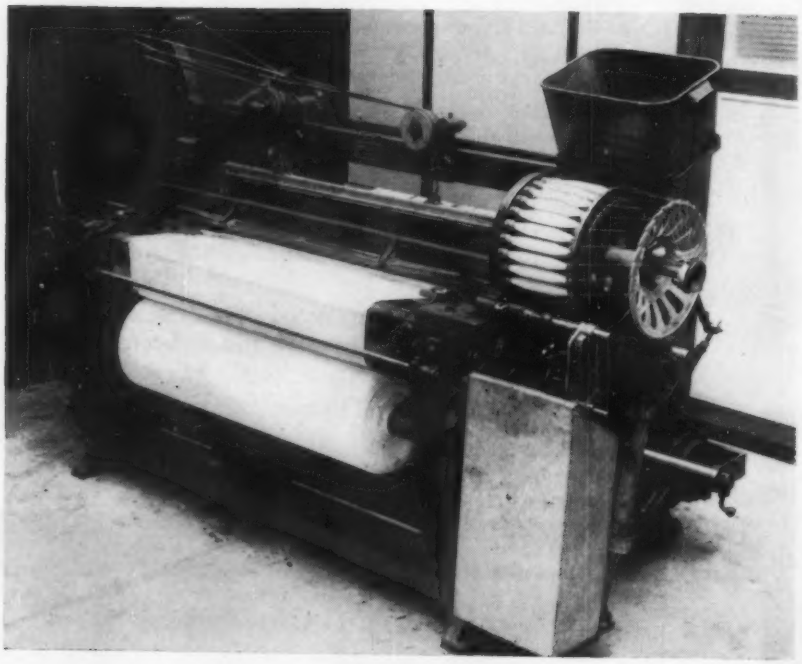
Top-Apron Draft System

A top-apron drafting system for speeder frames, said to handle a wide range of cotton staples with a minimum number of setting points, has been introduced by Platt Bros. (Sales) Ltd., Oldham, England.

Three lines of top and bottom rolls are used. Front and back rolls are conventional. However, the bottom middle roll is covered with a large-diameter synthetic cot over which works a short synthetic apron carried by the middle top roll. This arrangement deflects the fibers from a straight-line passage and increases fiber control.

Cap-bar nebs and slides are replaced with weighting arms that position the top rolls, house the spring-weighting units, and retain the top rolls when they are lifted.

Advantages of this system of weighting are positive alignment of top rolls, even pressure applied at both ends of the roll, longer life for the springs, and easy access to rolls. **(T-6)**



Bobbin-Changing Loom

A fully automatic bobbin-changing loom has been announced by Henry Livesey Ltd., Blackburn, England. The loom, Model AX, incorporates a rotary magazine and automatic warp let-off.

The loom employs a large-diameter yarn beam and is also arranged so that a large roll of cloth can be woven before the cloth is doffed. Bobbins up to 8¾ ins. long can be transferred by the magazine.

Several types of harness motions are available with capacities up to 20 harnesses. One type of harness motion furnished is the side-mounted dobby.

The looms can also be equipped with electric signaling devices to indicate warp and filling stoppages. They can be lighted for cloth cut-length indication. The loom starts at full speed at the first pick.

The loom is said to be simple and sturdy in design so that it's easy to keep running. **(T-7)**

Mount Hope SYSTEM

Leading Mills Cash In On Mount Hope Know-How

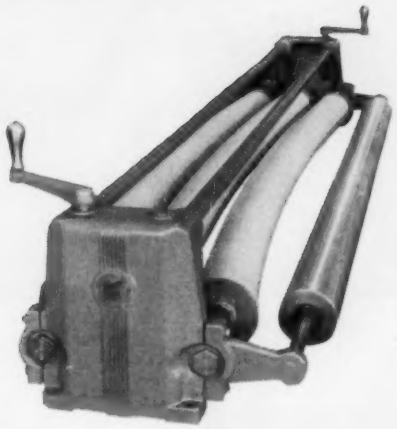
Landers' VERSILAN UPHOLSTERY

Fieldcrest

REEVES "first in functional fabrics"

PEPPERELL FABRICS

J. P. Stevens & Co. Inc.



New Multi-Bar Adjustable Expander with New Bracket

Mount Hope "Free Wheeling" Expanders — used alone or integrated with the Mount Hope System — are used by outstanding representatives of the textile industry.

For Maximum Production — Lower Cost — Minimum Seconds — use the Complete Mount Hope System

Send for Bulletins covering every cloth handling problem. Call your Mount Hope representative — or have our Production Cost Engineers survey your plant without obligation.

Riegel

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VALENCIA DAVIS & CATTERALL

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BRADFORD DYEING ASSOCIATION BDA U.S.A.

THOMASTON Fabrics

GARZA

AMERICAN FINISHING CO.

PLASTIC SuperSanitas COATED FABRIC WALL COVERING

SMART MONEY BUYS E & W BRANDS

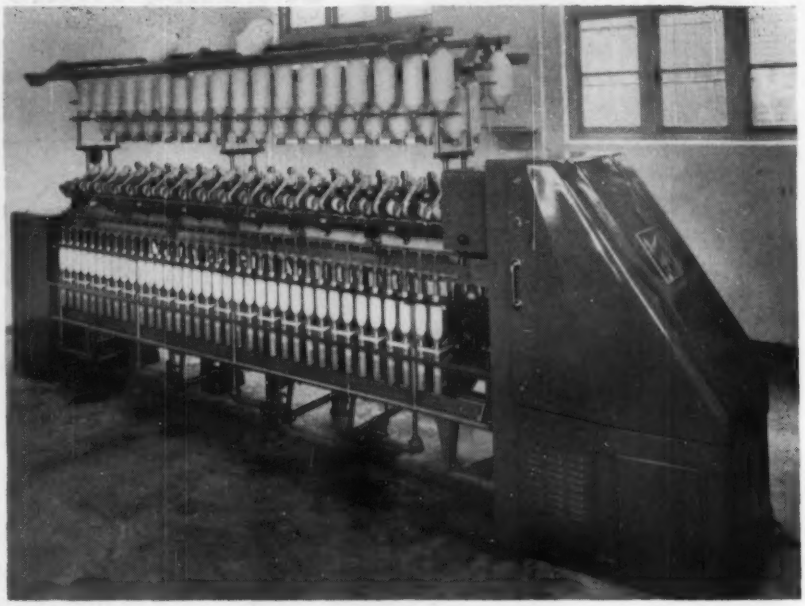
MOUNT HOPE MACHINERY COMPANY

15 FIFTH STREET, TAUNTON, MASS.

Originator of Modern Expanders Leader in Cloth, Paper & Plastic Handling

SOUTHERN REPAIR SHOP • CHARLOTTE, N. C.

High-Draft Spinning Frame

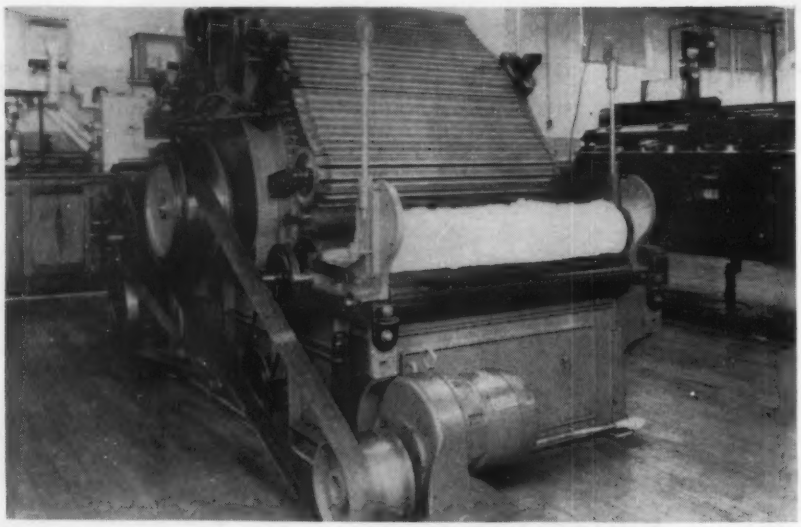


A high-draft spinning frame 35 ins. wide, of rigid construction, and equipped with special needle bearings on the bottom rolls is announced by N. V. Machinefabriek Oude Egberink, Hengelo, Holland. The frame is called the Spinmaster.

The frame is said to occupy less floor space, permit more bobbins per square yard, keep oil out of yarns, and use less power.

Spindles are driven by light-metal disks claimed to reduce vibration. The frame is equipped with Pneumafil, electric stop motion, ring separators, and a built-in motor drive. The creel is open.

The frame is streamlined so that air currents from the overhead cleaner can pass freely through the drafting area. A central oiling system is used. The motor has a built-in stop motion. Frame construction is rigid. **(T-8)**



Gear Motors

Gear motors in the form of self-contained drives, each consisting of a high-speed motor and speed-reducing unit, are being manufactured by Westinghouse Electric Corp., Gearing Div., Pittsburgh, Pa.

Specific uses of the gear motors are on calenders, tenter frames, cards, and slashers. The gear motors are designed to provide economical transmission in high-speed motors with the added feature of reducing the motor speed to the requirements of the driven machine.

The gear motors are supplied for various methods of mounting to suit unusual conditions of space or location of the driven machines. The standard mounting method is to place the gear motor horizontally on the floor or a pedestal.

Standard or Type E units are furnished for right-hand assembly. Left-hand assembly can also be furnished when specified.

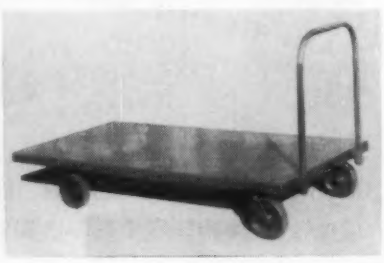
Wall mounting is available in right- or left-hand units. Ceiling mounting is available, too. **(T-9)**

Light-Duty Hand Truck

A hand truck suitable for light-duty work has been developed by Mercury Mfg. Co., 4044 S. Halsted St., Chicago 9, Ill. The truck is designed to be used in warehouses and throughout the plant. It has towline attachments for both overhead and underfloor conveyor lines.

The truck has a capacity of 1,500 lbs. The deck and lengthwise channel sides are made from 12-gauge sheet steel with 2-in. channel-iron supports throughout the truck.

The trucks are available in two sizes: (1) 32 ins. wide, 72 ins. long, and 12 ins. high; and (2) 32 ins. wide, 40 ins. long, and 12 ins. high. Both sizes have 6x2-in. wheels. **(T-10)**

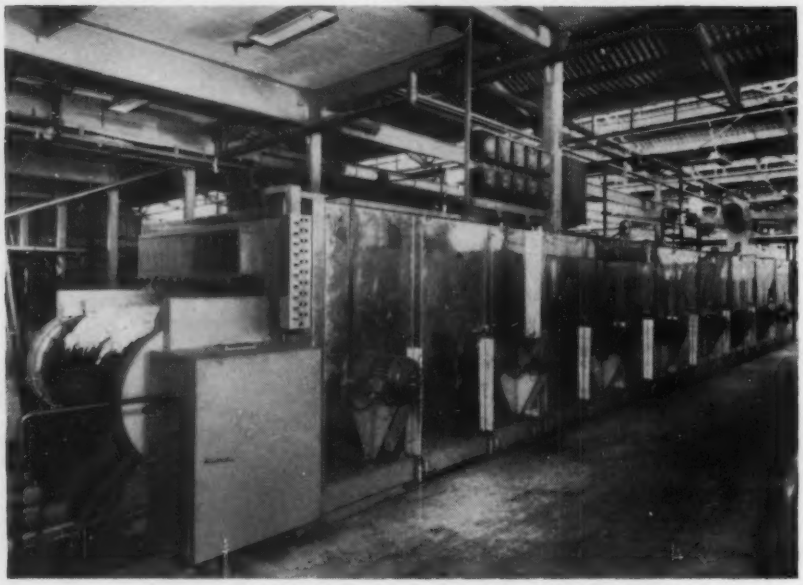


missing the parade?

No textile manufacturer wants to miss out on the profit parade... especially not from machine failure caused by faulty lubrication. That's why so many textile operations now rely exclusively on Cities Service Lubricants. These highest quality lubricants permit rigid production schedules without costly breakdowns, thus adding dollars to the profit column. Talk with a Cities Service Lubrication Engineer. Or write: Cities Service Oil Company, Sixty Wall Tower, New York 5, N. Y.

CITIES SERVICE

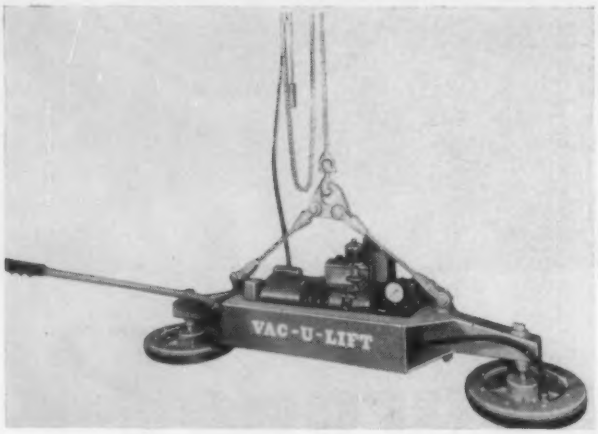
QUALITY PETROLEUM PRODUCTS



Wool Drying Oven

Wessburg & Tulander Pty. Ltd., Alexandria, N.S.W., Australia, has introduced a wool drying oven that consumes less than 1.75 lbs. of steam per pound of water evaporated. Recirculated air is temperature-controlled to retain the natural appearance and handling qualities of the wool. Reverse flow of the air in alternate compartments insures even drying, and leakage around conveyor edges is prevented to increase efficiency.

The conveyor is driven by a variable-speed drive that provides a speed variation of four to one. The housings are of polished aluminum heavily insulated with 2 ins. of rock wool. A two-section dryer will dry 200 lbs. of wool per hour. Extra sections can be added to increase production. **(T-11)**



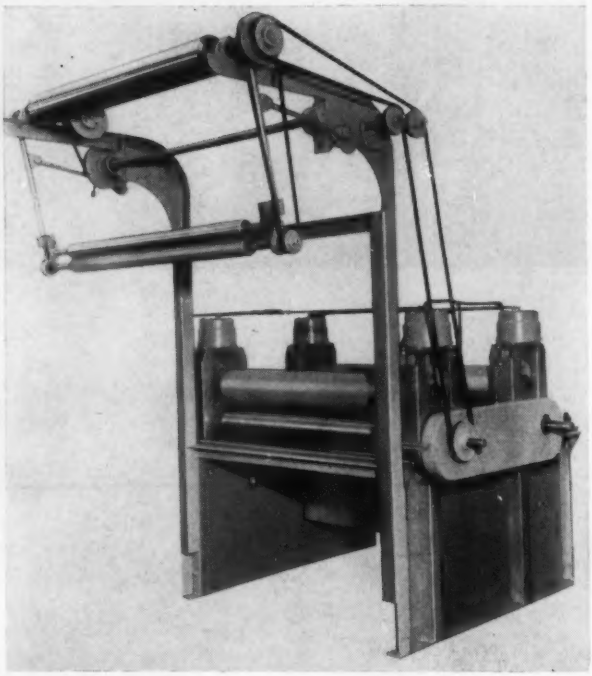
Lifting by Vacuum

Two sizes of a quick-lifting device operated on the vacuum principle are manufactured by International Staple & Machine Co., 801 E. Herrin St., Herrin, Ill.

Pads on the device grip any nonporous surface when vacuum action is applied. The device lifts steel plates, large castings, cement, paper cartons, drums, and other materials.

The large unit can be used with hoists, fork-lift trucks, and cranes. A hand-operated model is made for lifting lightweight boxes and packages.

The manufacturer will design units to meet your specifications for special jobs. Standard units are available with single and multiple heads. **(T-12)**



CORRECTION

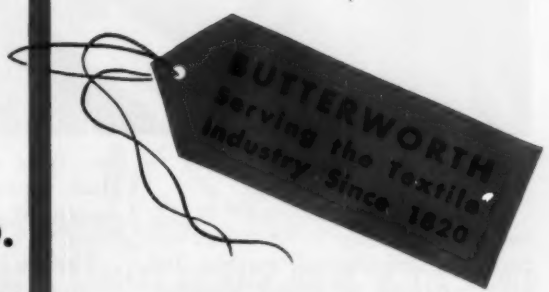
The photo of Wiesner-Rapp's dual saturator [TW, June, '55, p. 158] was printed upside down.

The saturator is shown correctly in the photo above.

We regret the error and are glad to set the record straight.

cut tenter chain costs with the NEW Butterworth Double "O" Link

Here is the most important development in tenter chain design in five years — the new Butterworth Double "O" Link that cuts chain costs up to $1 per link. In this new design, the chain body is 25% stronger without sacrificing interchangeability. Reduces down time by giving longer wear. The new design is also available in mercerizing tenter chains. For lower maintenance, extra strength, ask to see the new Butterworth Double "O" link today.



H. W. BUTTERWORTH & SONS CO.

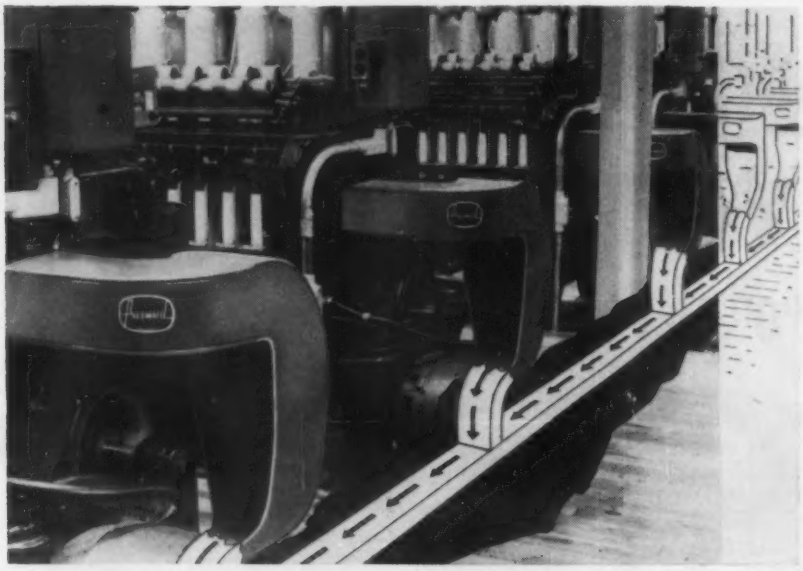
Bethayres, Pennsylvania

1211 Johnston Bldg., Charlotte, N. C. 187 Westminster St., Providence, R. I.

Representatives in Principal Cities of the World

Machines for Bleaching, Boiling-Out, Dyeing, Mercerizing, Finishing, Embossing
Pot Spinning Machines for Synthetic Fibers : : Calender Rolls : : Tenter Chains

 For more information, write direct or use Reader-Service post card.

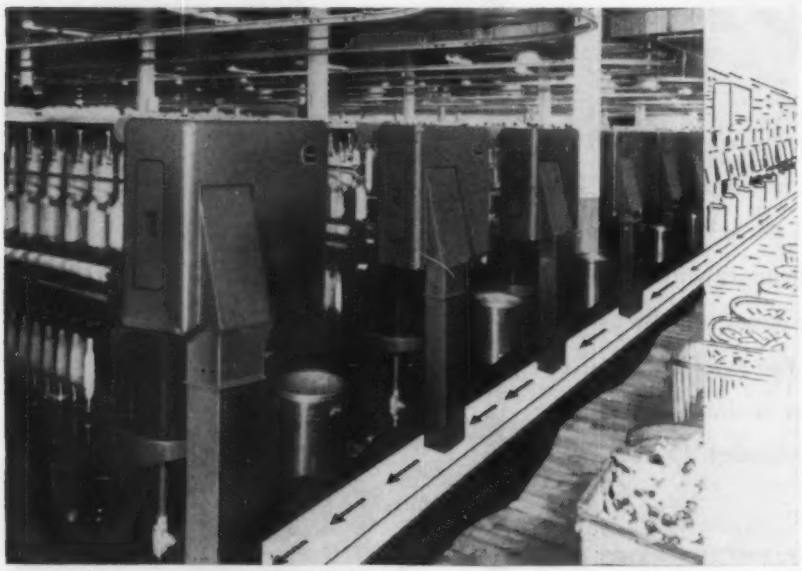


Material-Recovery System

The improved central material-recovery system for spinning frames combines materials-handling operations with air conditioning, according to Pneumafil Corp., Charlotte, N. C.

There is no collector on the frame served by a centrally located material-separation and air-handling apparatus. Material separated from the air is automatically conveyed to the pickers or elsewhere, and the air is either returned to the room or exhausted outside.

The device is said to have all the advantages of the central air system. **(T-13).**

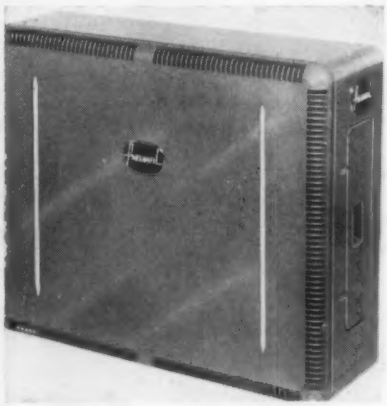


Central Air System

Pneumafil Corp., Charlotte, N. C., has announced that its central air system for spinning-end removal has been improved to permit optimum uniform distribution of air, heat, and humidity throughout the room.

Room heat is reduced by exhausting part of the heat from the frame before it is expelled into the room. Heat generated by the Pneumafil equipment is exhausted outside the room.

The air-handling requirements of existing air-conditioning equipment are reduced. If no air-conditioning equipment is in use, the Pneumafil equipment alone tends to cool the room. **(T-14)**



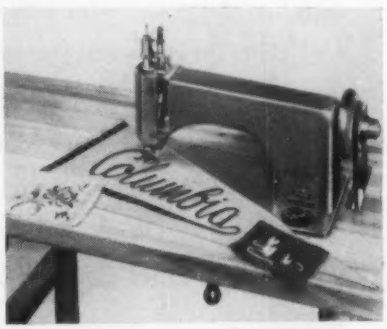
Pneumafil Collector Unit

Pneumafil Corp., Charlotte, N. C., has redesigned the air-exhaust system on its C-4 collector unit for spinning so that air is gently released from all four sides through 224 vents. This arrangement has greatly reduced air currents formerly generated by the Pneumafil exhaust.

Capacity of the unit has been increased from 2.5 to 4.1 cu. ft., and weight has been reduced from 300 to 212 lbs. Collection is 50% greater, with no loss of efficiency.

Other improvements include a self-cleaning aluminum fan with involute rotor blades and a cast aluminum-alloy housing with double-access vacuum-sealed doors. Finish is baked enamel both inside and out.

The unit can easily be converted into a central air system. **(T-15)**



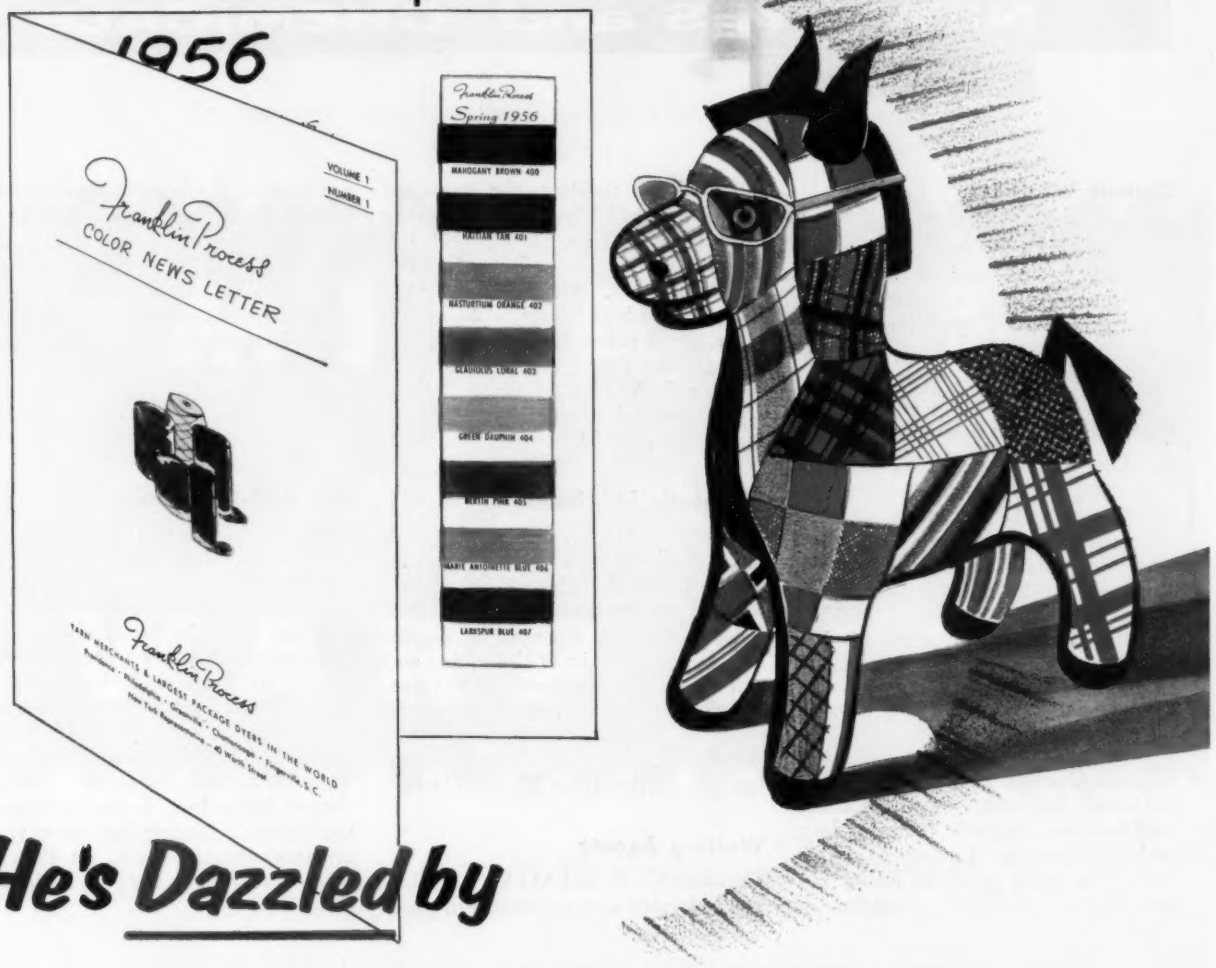
Embroidery Machine

A new embroidery machine that does chain-stitch embroidery, quilting, and chenille has been introduced by Columbia Sewing Machine Corp., 315 W. 35th St., New York, N. Y.

The machine is used for lettering on athletic garments and uniforms, for decorating children's and women's garments, and for monograms on towels and robes. **(T-16)**

CONTINUED ON PAGE 180

Franky | the horse of a different color



He's Dazzled by

The Spring 1956 Franklin Process Color News Letter

This letter shows 8 colors which fashion trends indicate will be popular in the Spring of 1956 — mahogany brown, Haitian tan, nasturtium orange, gladiolus coral, green dauphin, Bertin pink, Marie Antoinette blue and larkspur blue.

Write or 'phone to our nearest office for your copy, before our very limited supply is exhausted.

Franklin Process

COTTON YARNS & CUSTOM YARN DYEING · LARGEST PACKAGE DYERS IN THE WORLD

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New York Representative — 40 Worth Street

NEW DYES and CHEMICALS

Optical Whitener

Calcofluor White RWS . . . Developed especially for wool, nylon, acetate, silk, and Orlon; can be applied in a pad or during washing, rinsing, dyeing, or finishing operations. American Cyanamid Co., New York 20, N. Y. (D-1)

Pigments for Pad Dyeing

Pad Dye Process 18 . . . A process for producing solid shades on cotton, rayon, acetate, Orlon, nylon, Dacron, and other fibers by padding on water-dilutable pigment colors. The method produces light or dark shades of excellent fastness to light, washing, and dry cleaning, with extremely low crocking. Aula Chemicals, Inc., Elizabeth, N. J. (D-2)

Acetate Dyes

Eastofix Colors . . . Applied by conventional methods; offer improved washfastness, fastness to gas-fading, and lightfastness. Dyeing so far is limited to piece goods in becks, but printing is practical. Fastness is obtained by padding the extracted fabrics through a fixative after dyeing or printing. After a short period, the goods are washed and finished in the regular manner. Acetate-viscose mixtures can be dyed in one bath containing Eastofix colors and selected direct colors. The Eastofix colors will pass the No. 3 AATCC wash test. Eastman Chemical Products, Inc., Kingsport, Tenn. (D-3)

Antistatic Lubricant

Rubberknit 118 . . . A combination of vegetable and synthetic oils plus an antistatic agent; used for lubricating covered or uncovered rubber yarns. Does not affect strength or dimensional characteristics of the rubber and will not discolor synthetic yarns. Lubricating effect reduces wear on knitting machines; will not affect metals. Richmond Oil, Soap & Chemical Co., Philadelphia 25, Pa. (D-4)

Wetting Agents

Dexolene G, B, and MTV . . . Effective as levelers and penetrants in package or skein dyeing, these solutions of sodium dioctyl sulfosuccinate also act as dispersing agents for vat dyes and help to get good penetration of finishing materials. Improve rewetting of goods to be preshrunk. Dexolene MTV is recommended for high-speed processing; does not build up foam. Dexter Chemical Corp., New York 39, N. Y. (D-5)

Soil Resistant Finish

Ludox . . . A colloidal-silica dispersion of extremely small particle size that may be applied to fabrics by spraying, by transfer roll, or as an addition to the last rinse in the dyebath. The silica particles occupy the sites that usually fill up with air-borne dirt so that pile fabrics, upholstery, rugs, and chenille products treated with Ludox remain clean longer and are cleaned more easily when soiled. Mohawk Carpet Mills, Inc., is the patentee of the process. License for use may be obtained through E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. (D-6)

FOR MORE INFORMATION, circle the D-number on Reader-Service post card.

New Synthetic-Fiber Table

The latest revision of TEXTILE WORLD'S Synthetic-Fiber Table will be published next month. This up-to-date listing of U. S. synthetic fibers in commercial production includes properties, classifications by type and name, and suppliers of each type and form of fiber.

Watch for it in September TEXTILE WORLD

NU-FILM

Having weaving troubles? With your present miracle fibers? Or with new complicated blends or styles?

You can make it easy for yourself by using a National 'miracle warp size.'

MIRACLE

FOR MIRACLE FIBERS

WARP SIZE

NU-FILM has more affinity for today's complicated blends than any other size. It'll produce a smooth, tough film on most miracle fiber blends.

You'll find NU-FILM easy to remove. Its soluble groups speed thorough rinsability—usually with only soap and water.

We'll welcome an opportunity to work with you.
National Starch Products Inc., 270 Madison Avenue, New York 16, N. Y.

National
STARCH PRODUCTS

Please Send Us!

- ☐ Nu-Film ____ lbs. for trial run
- ☐ Nu-Film laboratory sample
- ☐ Nu-Film Technical data
- ☐ National representative to arrange for a Nu-Film trial

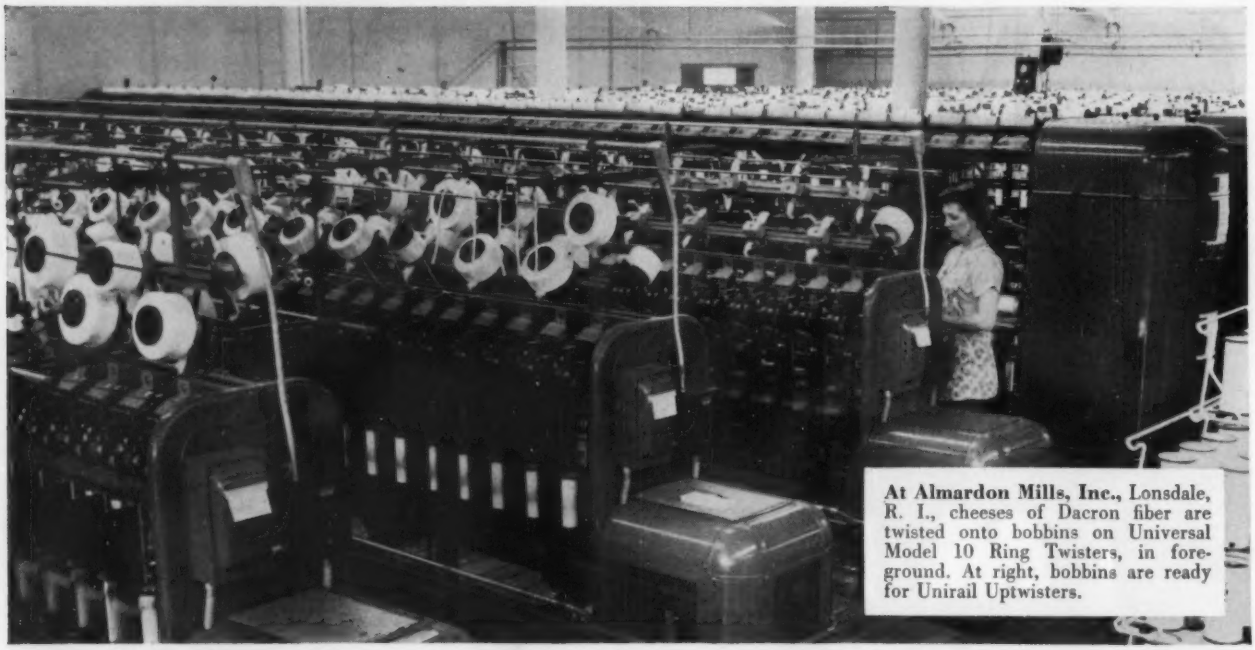
Name _____ Title _____

Company _____

Address _____

City _____ Zone ____ State _____

 For more information, write direct or use Reader-Service post card.



At Almardon Mills, Inc., Lonsdale, R. I., cheeses of Dacron fiber are twisted onto bobbins on Universal Model 10 Ring Twisters, in foreground. At right, bobbins are ready for Unirail Uptwisters.

Almardon Mills Solves the Dacron-Twisting Problem

Increases production of top-quality yarn to a new high — cuts costs to a new low — with Universal equipment.

Supplied with zero twist, and requiring a high final twist, Dacron has introduced new throwing problems to mills processing this new fiber.

Almardon Mills was no exception. Using its previous equipment, this well known producer of fine quality Dacron piques and lenos was redrawing 70 denier Dacron from cheeses to bobbins, then throwing 20 turns of twist on 12 ounce package uptwisters. Uptwisting speed was slow, the filaments opened, and breakage was high. Flyers were necessary, and due to the abrasive action of Dacron, had to be replaced at every doff. And, if relaxed yarn was required, the added cost of rewinding was necessary.

Here, in the words of Chester H. Boyce, Almardon Vice President, is how this mill solved the Dacron problem:

"We worked out a process with Universal, combining their Model 10 Ring Twisters with their new Unirail® Headless Package Uptwisters. This changed the picture completely. With the Model 10 creels we can insert two turns of twist direct from the cheeses without redrawing. High speed uptwisting is then possible without separation of the filaments. And the Model 10 bobbins are the ideal supply for Unirail Uptwisters.

"Our Unirail Uptwisters put in remaining 18 turns at 14,000 r.p.m. without flyers. And right there we've cut down labor costs and boosted production. No more flyer replacements, and breakage is practically nil.

"Now, with our Universal combination, we're producing big pound-and-a-half Dacron packages — headless packages with *controlled relaxation of the yarn* without rewinding. In our experience, this is the best package you can get for delivery to warping and quilling."

If you are one of the many mills now working with Dacron, why not investigate how this Universal system can improve your own production picture? For helpful information on this — or on any other twisting or winding application, see your Universal representative.

UNIVERSAL WINDING COMPANY

P. O. Box 1605, Providence 1, Rhode Island

BOSTON, PHILADELPHIA, UTICA, CHARLOTTE, ATLANTA, LOS ANGELES, MONTREAL, HAMILTON, CANADA; MANCHESTER, ENGLAND; PARIS, FRANCE; BASLE, SWITZERLAND

Agents in every principal textile center throughout the world
Winding and Twisting Machinery for Natural and Synthetic Yarns

QUESTIONS and ANSWERS

▶TEXTILE WORLD'S editors are at your service to help solve your problems in yarn manufacture, weaving, knitting, dyeing, finishing, or other textile operations. If you have a technical problem bothering you, send it along to the Editor, Questons and Answers, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.

Eliminate Yarn Knots With Resin Compound

Technical Editor:

We are having trouble on our jacquard knitting machines with knots in worsted yarns. We've tried various knots, but they still tend to break out at the needles as the stitch is drawn. Any suggestions? (9900)

An answer to your problem lies in an adhesive resin used in the tufting industry to join yarns that must run through a narrow tube. This spliced yarn was tried on a rib knitting machine, and it worked quite well on worsted yarn.

The two yarn ends to be joined are placed on the left forefinger with a ¼- to ½-in. overlap. The right forefinger and thumb are dipped in the liquid resin compound, and the yarn overlap is given a twist between the right forefinger and thumb. The adhesive sets immediately and the machine is ready to run.

The method is quicker than tying a knot, although dealing with the adhesive, which is contained in a can, is rather messy.

The splice is stronger than the yarn and it makes a bulkier stitch, which should be almost unnoticeable in colored jacquard fabrics. A colored resin would tend to make the splice even more unnoticeable.

Because the yarn is double thickness at the point of the splice, a join on the heavy yarns won't run through small-holed yarn carriers. The twisting action also tends to take out the twist above and below the splice, and on soft-twist cottons this caused the yarn to break above and below the splice.

Best Dye Tube Is 1⅝-in.

Technical Editor:

What is the advantage of the 1⅝-in. dye tube over a ⅜-in. tube? (9896)

The 1⅝-in. tube gives more flow than a ⅜-in. tube, and the friction is less. The flow through a ⅜-in. tube creates too much velocity and friction loss.

Yarn waste in rewinding is reduced because more packages go on a 1⅝-in. tube.

Sheeting Is Dried At 80 Yds. per Min.

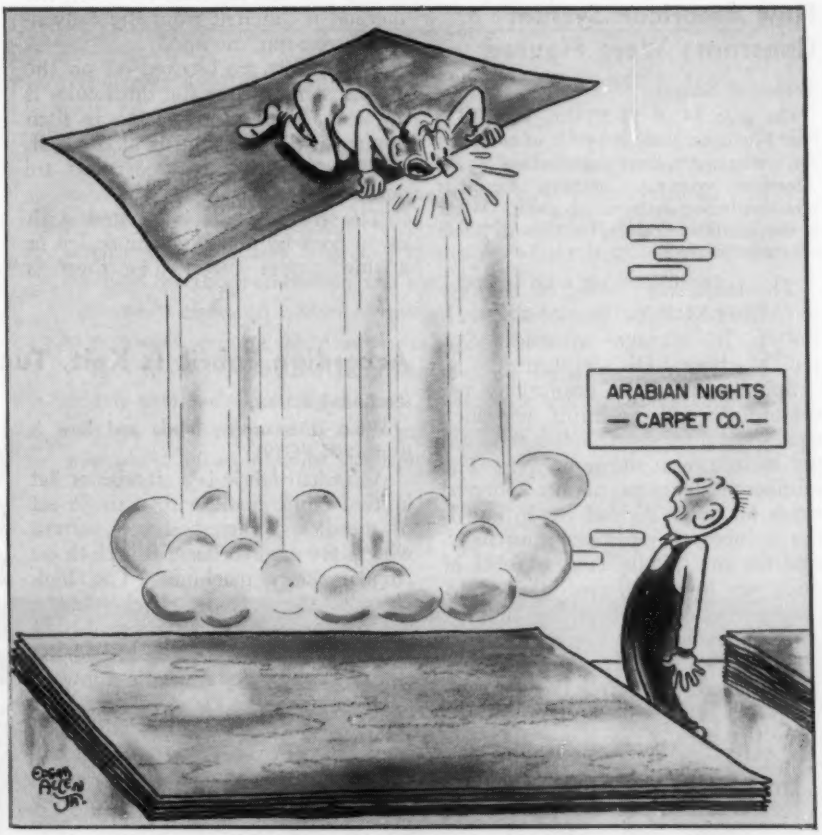
Technical Editor:

At what speed should cloth be dried on stainless-steel steam cans? (9906)

The speed will vary greatly, depending on the number of cans, the weight of the goods, and the water content. However, we have facts on 4-yd. sheeting that contains 55 to 60% water. On 30 cans at 15 lbs. steam pressure, 80 yds. per min. should be delivered.

CONTINUED ON PAGE 138

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*



"Jet-propelled picker stick, huh?"

How a Tufting Machine Works

Technical Editor:

We've read a lot in TEXTILE WORLD about tufted carpets recently. Do the machines that make these carpets work on a warp-knitting principle? (9877)

The tufting machines do not work on a knitting principle although the machines do use needles. The needles that are used resemble sewing-machine needles.

These needles are contained in a bar that runs almost the width of the machine. The machine widths range up to 208 ins. Each needle is threaded with yarn. Spun rayon and cotton yarns are generally used.

These yarns are fed to the needles from a creel through tubes.

The needle bar moves up and down, and the needles penetrate a woven fabric that is fed below the needles. When the needles reach the bottom of their movement, hooked instruments enter between the needles and their threads.

The threads are held while the needles rise and the cloth is moved so that the needles can produce a fresh row of loops. Some tufting machines can produce 500 rows of loops per minute.

How American System Constants Were Figured

Technical Editor:

On page 34 of TEXTILE WORLD's Fact File issue, there is a table of constants for roving and spinning production on the American system. Constants for four yarn-numbering systems are given. What is the mathematical explanation of these constants? (9892)

The table was printed by courtesy of Whitin Machine Works; and J. H. Bolton, Jr., manager, American System Machinery Div., explains:

Spindle speed in revolutions per minute divided by turns per inch equals the number of inches delivered per minute from the front rolls. The number of inches per minute delivered times 60 mins. divided by 36 equals the number of yards per hour delivered for one spindle. The number of yards per hour delivered divided by the yarn number times the number of yards to a hank in the particular system that you are working (cotton, 840; worsted, 560) gives the hours.

To convert to a formula where you know the spindle speed and turns per inch, substitute them for inches per minute in the following formula:

$$\frac{\text{Ins. per min.} \times 60}{36} = \text{yds. per hr.}$$

Then substitute:

Spindle speed x 60 ÷ tpi. ÷ 36 for yards per hour in the following formula:

$$\frac{\text{Yards per hour}}{\text{yarn number} \times \text{standard hank}}$$

Then taking 60 mins. and 36 ins. per yd. and using the base yardage for your system, compute the constant. For instance, for the worsted system:

$$\frac{36 \times 560}{60}$$

All the steps in the computation are not shown, but the important point is that the constant isn't based on any rate such as 80%, but rather on the number of yards to a pound within the given numbering system.

These production formulas are perfectly open, and it is necessary to arrive at what spindle speed and twist is going to be used for the various yarn numbers to calculate the production. The given production is further colored by the assumed efficiency.

Weave Orlon Blankets With 2/2 Twill Weave

Technical Editor:

What is the best layout for a four- or six-harness weave for Orlon baby blankets? (9904)

Here are two layouts for full-size blankets. Most mills weave their blankets full size and cut the baby blankets to size.

84x62 ins. finished
3½ lbs.
1700 ends ¾ run
6x3=94.4 reed width
14 ppi. ⅝ run
2/2 twill weave. Four harness

80x60 ins. finished
3 lbs.
1600 ends ¾ run
6x3=89 reed width
14 ppi. ⅝ run
2/2 twill weave

How To Flock-Print In Three Colors

Technical Editor:

How can we flock-print nylon voile with three different colors? (9893)

Flock printing with three different colors can be done only with the stencil printing method. However, the method is different from the conventional one-run method.

Two colors are blocked off on the copper stencil while the third color is applied. The second color is then applied while the third is blocked off, and so on until the three colors are complete.

The nylon voile is printed with rayon flock by punching the design in a thin copper sheet. The sheet is usually made into a 50-in. hollow cylinder and placed in a machine with a doctor blade inside the cylinder.

An adhesive made of rubber, synthetic resins, and oil is poured into the cylinder. As the fabric passes around the cylinder, the doctor blade forces the adhesive out through the designs on the copper sheet to the fabric.

While the adhesive is still wet, the fabric goes into a tunnel where one colored flock is blown about to attach to the adhesive. The fabric is dried in a drying chamber. A vacuum brush removes the loose fibers that are not attached to the adhesive.

Accordian Fabric Is Knit, Tuck, and Float

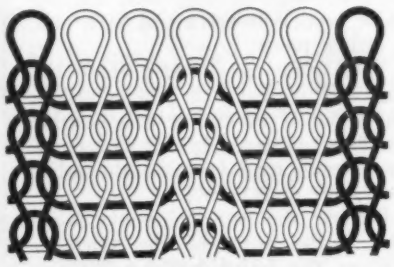
Technical Editor:

What is accordian fabric and how is it made? (9899)

Accordian fabric is a circular or flat knitted fabric made with a single set of needles. Three-position pattern wheels are used to make this cloth on circular jersey machines. The high jacks in the pattern wheel select a needle to knit, the medium-height jacks select a needle to tuck, and the empty slots cause a needle to welt, float, or miss.

The construction is generally used to tie in long floats on colored fabrics. The long floats of unwanted color are tied to the fabric body by the tuck stitches.

The term accordian is generally used in Europe. In the U. S., the cloth is generally termed knit, tuck, and welt cloth.



ACCORDIAN FABRIC is made on one set of needles with a knit, tuck, and welt construction.

STOWE-WOODWARD Maintenance Tips

for better finishing at lower cost

Q. AT WHAT RUBBER THICKNESS SHOULD A ROLL BE RECOVERED?

A. *(Check the answer you think correct . . .)*	
1. ¼"	
2. HALF THE ORIGINAL THICKNESS	
3. VARIES DEPENDING ON DENSITY, OPERATING NIP AND CUSHION	

You'll find the correct answer in these Maintenance Tips

While either answer No. 1 or No. 2 may be right for certain specific rolls, answer No. 3 is correct. A rubber roll is usually manufactured with a thick cover to provide a deep cushion and a wide nip. Obviously, when the rubber cover is ground to a point where it is impossible to maintain the required cushion and nip, the roll must be recovered.

Stowe-Woodward rubber coverings are bonded to the cores so as to provide a greater thickness of working rubber.

Your Stowe-Woodward sales engineer will be glad to advise you on any problem regarding the care, selection or use of rubber covered rolls . . . and he can tell you the safe minimum thickness for any roll in your plant. When in doubt, ask him.

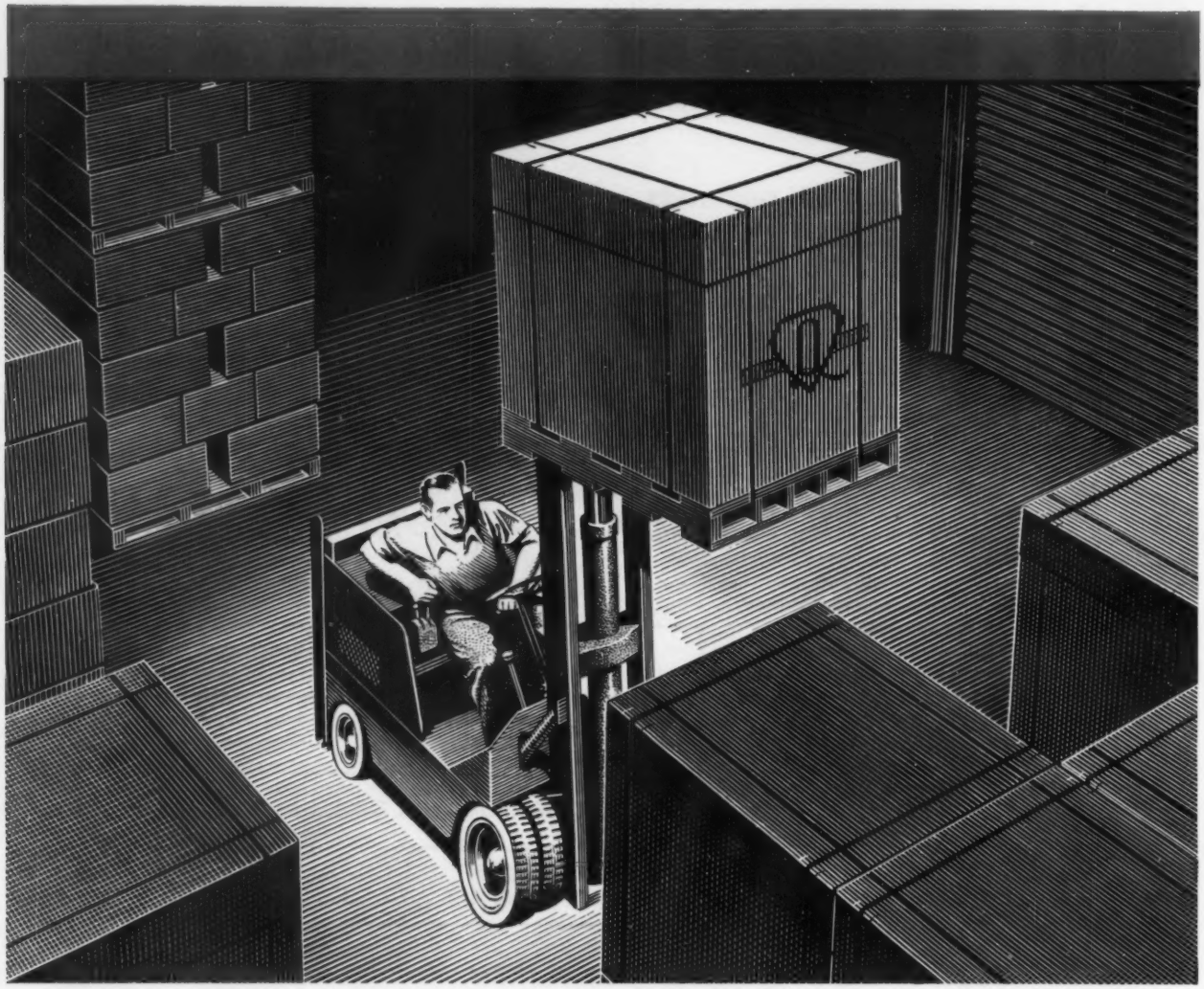
"RUBBER ROLLS with a REPUTATION"

S-W INC.

STOWE-WOODWARD, Inc.

Craftsmen in rubber rolls

NEENAH, WISCONSIN • NEWTON 64, MASS. • GRIFFIN, GEORGIA



Help your product "STACK UP" BETTER

Gaylord Boxes

In the warehouse you'll save valuable space because precision-made Gaylord Boxes stack solid, straight...and taller.

In shipment your products will "stack up" better in the eyes of all who see them when they're dressed in eye-catching Gaylord containers.

On arrival your products will "stack up" best; for protection-engineered Gaylord Boxes deliver them in the same good condition in which they left your plant.

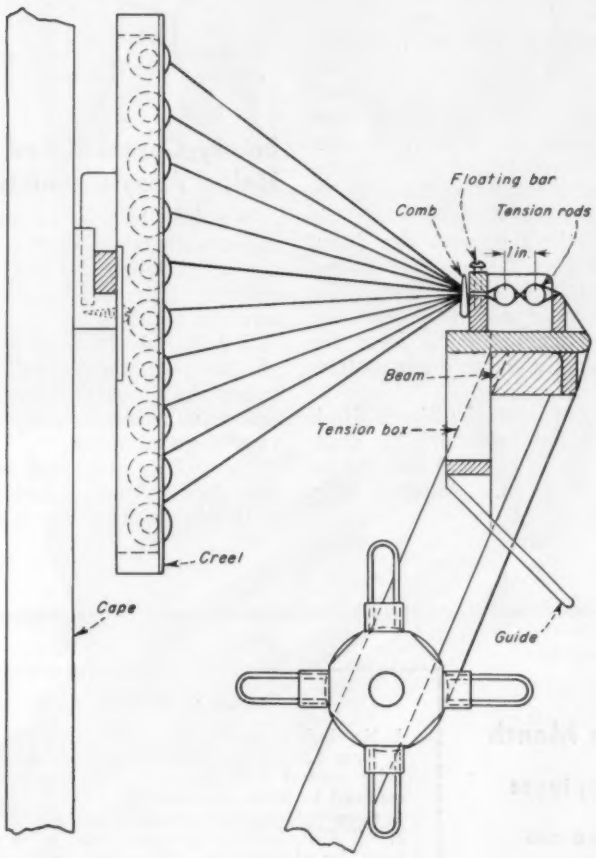
Stack the cards in favor of your product. Call your nearby Gaylord sales office today!

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES • KRAFT BAGS AND SACKS

GAYLORD CONTAINER CORPORATION ★ ST. LOUIS

SALES OFFICES FROM COAST TO COAST ★ CONSULT YOUR LOCAL PHONE BOOK

KINKS and SHORT-CUTS



Sliding Creel Aids Handloom Warping

The method I use for warping handlooms takes up less space than the usual methods, and it enables me to easily center the creel and the tension with the section that is to be filled.

I use a sliding creel and tension bar. The tension bar is threaded from the spools in the creel. The bottom spools are threaded first. The spool with the marked yardage is placed at the top of the creel.

The comb has about 16 teeth per inch, and the tension pins are ¾ in. in diameter. The pin nearest the comb is ¾ in. longer than the other pin to aid in crossing alternate warp threads.

After a section warp mark is pulled down below the guide, I secure the ends with a strip of adhesive tape. The warp is cut above the tape and tied to the nearest staple. The ends are then pulled down for the next section. The creel and tension are moved over, and the ends are tied. *Walter A. Simond, Essex Junction, Vt.*

Rubber Band on Rolls Cuts Cleaning Time

We use an oil-resistant rubber band on our back and middle steel rolls to stop oil from bleeding in on the boss of the roller. This band is the kind used by veterinarians (Senior Band No. 300) and can be bought at supply houses.

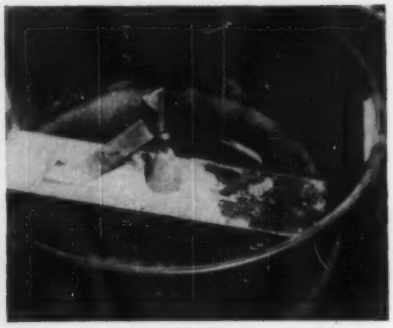
The proper time to put the bands on is when rolls are being cleaned. Before we started using these bands, rolls were cleaned three times each week at a cost of about $24. Now the rolls are cleaned only when we clean aprons.

The steel rolls do not have to be removed from the frame when the band is put on. Simply remove the steel-roll gear and slip the band in place with a pair of pliers to which are welded four small prongs about 2¼ ins. in length, two prongs to each plier jaw. The prongs stretch the band so that it can be easily slipped on. *Jack B. Boyter, Gastonia, N. C.*

How We Dispose of Old Fluorescent Tubes

We dispose of discarded fluorescent light tubes by smashing them in a 55-gal. drum equipped to perform this function.

As shown in the first photo above, a semicircular sheet-metal guide welded on the cover of the drum aligns the tubes as they enter the drum.

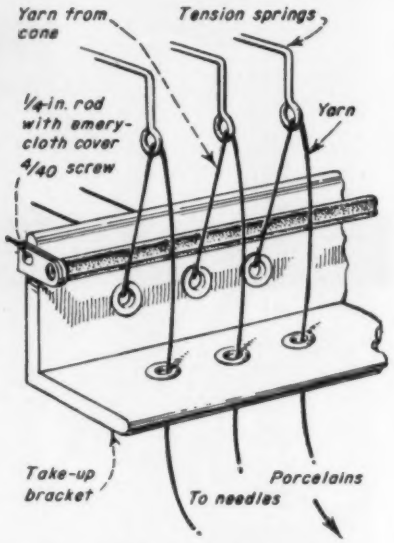


The second photo shows the inside of the drum.

A removable shelf that rests on the sides of the drum holds a plunger, an angle iron, and a pointed hammer. The angle iron secures the tube as the pointed hammer comes over to shatter the end of the tube when it presses the plunger. A cone-shaped piece of iron shatters the remainder of the tube as the operator joggles the tube against the cone while he pushes the tube into the drum.

It takes only a short time to dispose of a tube in this manner. The operator wears a mask to protect him from the fumes coming from the broken tubes; and the drum protects him from flying glass.

When the drum has been filled, we remove the cover and the shelf, put them on an empty drum, and repeat the operation. *Hathaway Mfg. Co.*



Emery-Covered Rod Helps Argyle Knitting

We had trouble on our Banner argyle machines when the yarn take-ups failed to prevent the yarn from creeping from the cone when the yarn was not knitting.

A ¼-in. rod was fixed to the front of the porcelain bracket. A fine emery cloth around the rod prevents the yarn from creeping when the yarn is out of action.

The rod is positioned so that the yarn does not rub against the emery cloth when the yarn is in action.

$500 for Best Kink in 1955

$25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

Send in your Kink now. There is always a contest going on.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your Kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it; we will pay you extra if you do and we can use it.

We like ideas for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

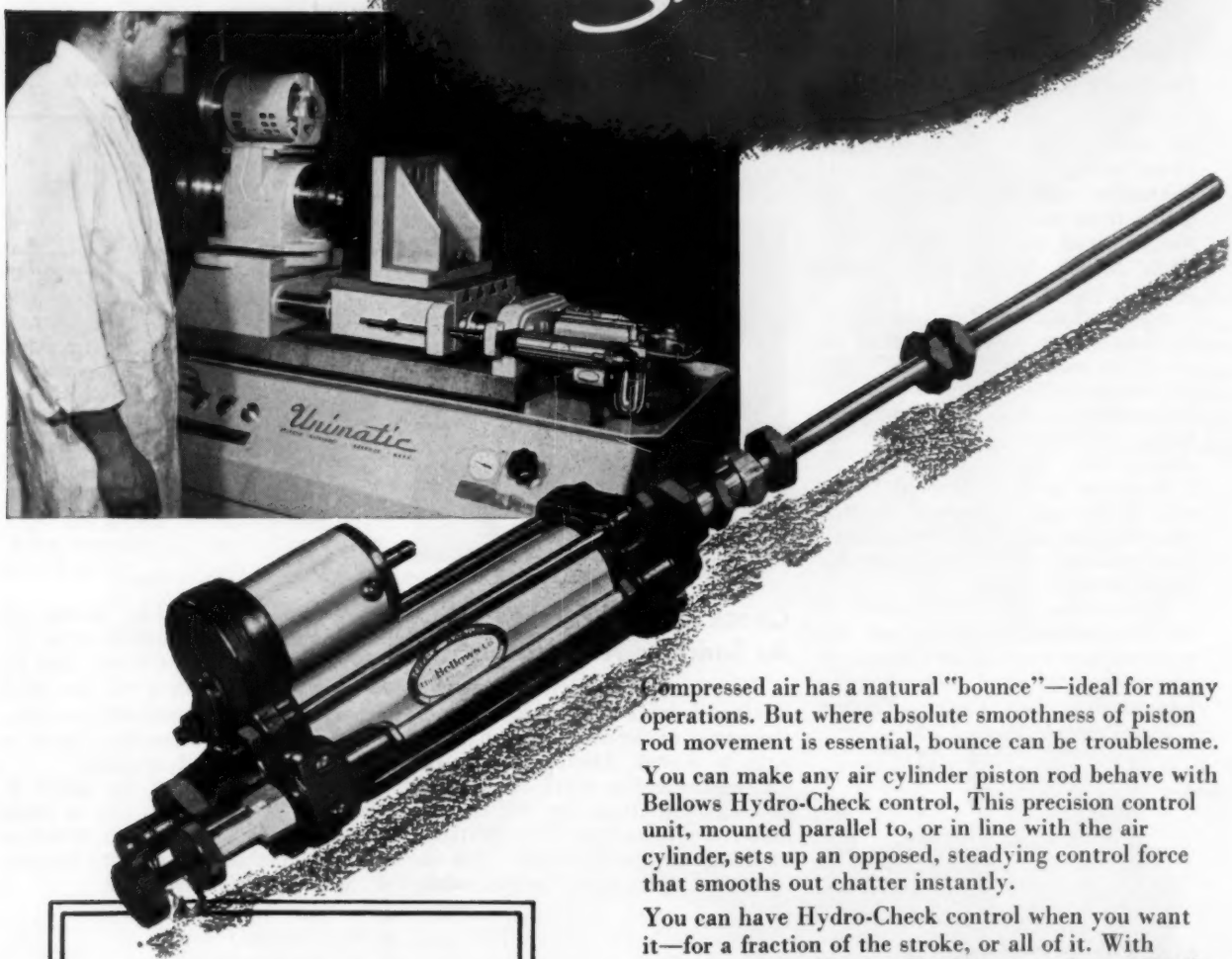
RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1955.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred Kinks in each issue. Their votes will select the best Kink, and their decision will be final. In cases of ties, duplicate prizes will be awarded.

Send Kinks to:

KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

how to give any air cylinder... *Hydraulic Smoothness*



Compressed air has a natural "bounce"—ideal for many operations. But where absolute smoothness of piston rod movement is essential, bounce can be troublesome.

You can make any air cylinder piston rod behave with Bellows Hydro-Check control, This precision control unit, mounted parallel to, or in line with the air cylinder, sets up an opposed, steadying control force that smooths out chatter instantly.

You can have Hydro-Check control when you want it—for a fraction of the stroke, or all of it. With certain models of Hydro-Checks you can have "Skip"—or intermittent checking action; or you can stop an air cylinder piston at any point in its travel for a predetermined time and then resume traverse. Hydraulic control can be on either advance or retract strokes or on both.

If you use air cylinders in precision operations, you'll want to know more about Bellows Hydro-Checks — precision hydraulic control for air cylinder power. Write for Bulletin HC-601 Address: The Bellows Co. Dept. TW855 Akron 9, Ohio. In Canada: Bellows Pneumatic Devices of Canada, Ltd. 14 Advance Rd., Toronto, Ont.

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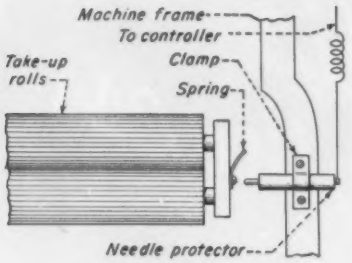


This Safety Device Protects Knitting Machines

When the leather belt that drives the take-up rolls on our rib-body machines broke, the take-up rolls became inoperative and the fabric was not drawn from the needles. The fabric was damaged, and the needles were often broken before the machine stopped.

To guard against this damage, we fixed an electric needle protector on the lower machine frame. The point of the protector is ground off, and the protector is held by an adjustable clamp positioned just below the take-up rolls.

A curved spring is screwed to the end of the roll attachment so that when the take-up rolls fall below their usual position, the spring strikes the needle-protector blade.

The needle protector is wired to the stop-motion controller, and the machine now stops before damage occurs to the needle and cloth when the take-up drive belt breaks. *Thomas Clews, Truro, N. S.*

Best-Kink Award for June

Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.

The best Kink for June, according to TEXTILE WORLD reader-judges, was:

"Tied Knots Are Pulled Easily Through Looms"

By Stephen Vernarec, Wallington, N. J.

Mr. Vernarec is being sent a check for $25 with the compliments of TEXTILE WORLD.

Check Cloth Weight As Samples Are Woven

When sample fabrics are woven it is often helpful to be able to check the weight of the fabric as soon as the warp is started. Having this weight information before a full cut of cloth is woven permits making the changes necessary to weave the cloth accurately to the given specifications. This information is especially helpful when heavyweight woolens are being woven.

We have a simple formula that gives us the weight of woven cloth as soon as 12 ins. of good cloth are woven. After the sample is woven down to the take-up roll of the loom, we stop the loom and put in a marker pick. Then we weave the cloth around the take-up roll and press roll until the marker and 12 ins. of good cloth pass by.

We measure exactly 12 ins. of cloth from the marker and cut off the cloth at the marker and the measured point. This gives us exactly 12 ins. of woven cloth.

We weigh this 12-in. swatch of cloth on a scale graduated in $\frac{1}{8}$ oz. We change the weight of the cloth to the decimal equivalent of the total figure in $\frac{1}{8}$ oz. and multiply this number by three. The resulting figure is the ounces per yard of cloth.

After the weight of the fabric is found, it is possible to put in extra picks or take out picks to weave a fabric at the desired weight. *Eugene P. Schremp, Waterville, Me.*

Make a Soft Hammer From Pipe and Tee

A soft hammer for striking and driving bolts, nuts, shafts, pipe, and similar machine parts that should not be scratched or battered can be made from a standard tee and a $\frac{1}{2}$-in. length of pipe. For a handle, screw the pipe into the tee. Then put pieces of scrap metal into the tee, and fill it with molten lead or babbitt metal. Paper wrapped around the rim will keep the molten metal from spilling and serve as a form for the hammer face. *W. F. Schaphorst, Newark, N. J.*

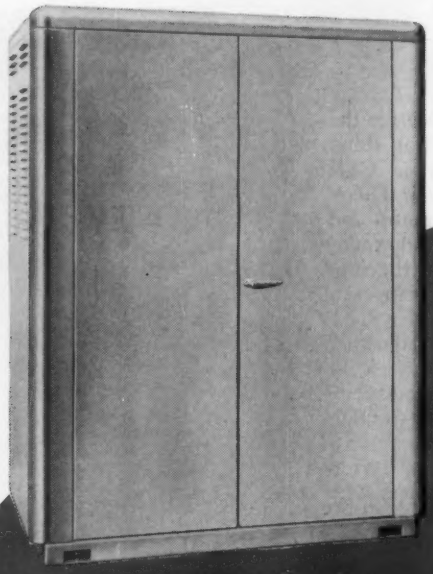
Two-Roll Drafting Improves Evenness

To increase evenness of sliver from the drafting system on our combers, we converted our five-roll system into a two-roll system.

The third, fourth, and fifth pairs of rolls were removed; and in their places we installed a highly polished nickel-coated plate to guide the sliver from the sliver table to the nip of the drawing rolls. The same roll stand was used.

This system minimizes fiber stretch and helps keep front-roll speed steady. By decreasing the speed of the second roll, the same draft can be obtained as when five rolls are used. Roll settings do not have to be changed. We use 25 lbs. of weight on the front roll and 40 lbs. on the second roll. Reduction of hooks and weights makes cleaning and roll setting easier.

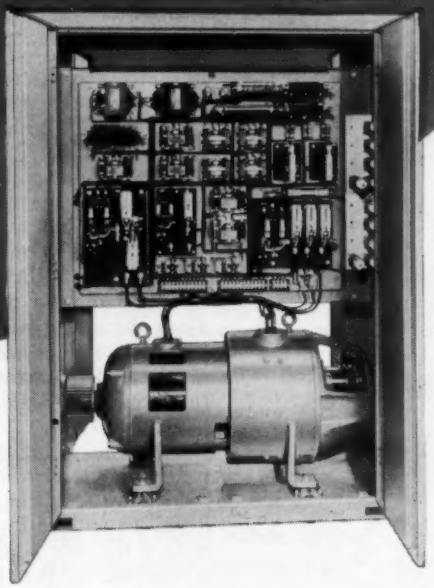
Using the Uster evenness tester, we found that our two-roll sliver was 40% more even than the five-roll sliver. Finished yarn was 8 to 9% more even. *K. S. Natarajan, India*



This neat control cabinet houses the a-c to d-c power conversion unit, plus the control required for the particular application. The cabinet is pressurized to prevent entrance of dirt, dust, etc.

Providing d-c motor performance from a-c power supply...

ELLIOTT C-W *Packaged* Adjustable-Speed Drives Type VV

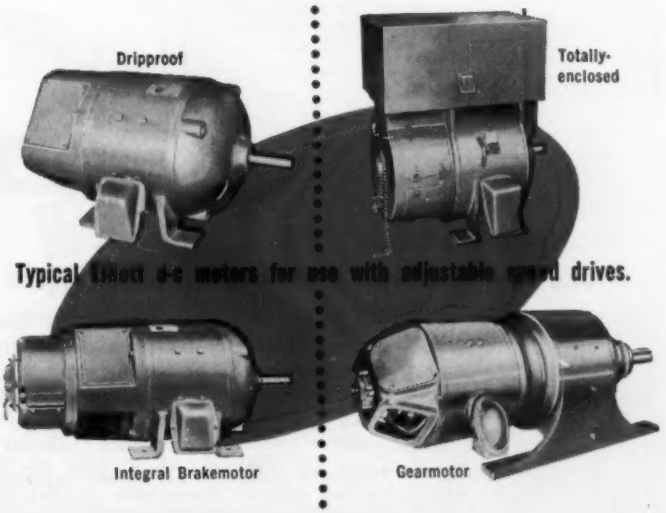


A special 15-hp power package designed for voltage regulated multimotor drive. It provides complete control and supervision of drives from a remote operator's panel.

THESE PRE-ASSEMBLED, pre-wired power packages offer simple, convenient speed adjustments and supply adjustable voltage d-c power for range drive applications. In addition to starting, speed adjustment and positive stopping controls, the units can easily be modified for special operations. To name a few: reversing, jogging, creep speeds, dynamic braking, preset speed, multimotor drive, etc.

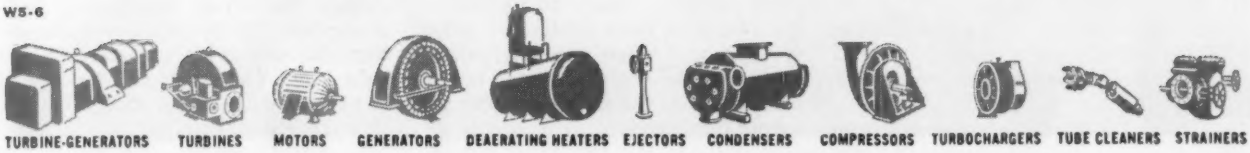
Elliott adjustable-speed drives are designed for ratings to 200 hp—speed ranges to 16:1 and up for 208, 220, 440 or 550 volts—25, 50 or 60 cycles, 2 or 3 phase. All power package components are backed by the Elliott Company's more than half-century of experience in the manufacture and application of industrial drives. For a simple and positive solution to any drive problem, call your local Elliott representative or write to Elliott Company, Crocker-Wheeler Division, Jeannette, Pa.

ELLIOTT Company



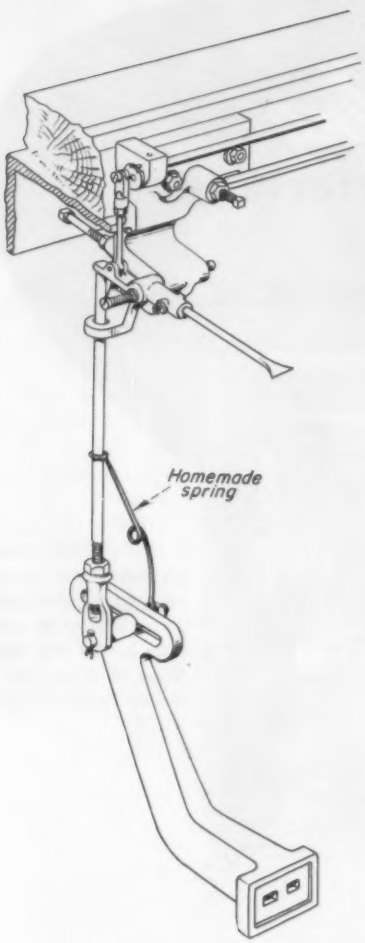
Typical Elliott a-c motors for use with adjustable speed drives.

W5-6



TURBINE-GENERATORS TURBINES MOTORS GENERATORS DEAERATING HEATERS EJECTORS CONDENSERS COMPRESSORS TURBOCHARGERS TUBE CLEANERS STRAINERS

Homemade Spring on Fork Compensates for Wear



The hole or bearing surface for the pump rod in the side adjusting stand on the center stop motion on C&K looms often wears egg-shaped. Therefore, the position of the pump rod in relation to the dagger movement is not constant. As a result, the stop motion does not stop the loom each time the filling breaks.

Since replacing the side adjusting stand is difficult when a warp is in the loom, we make a temporary repair to keep the pump rod working correctly.

First we make a pressure spring from a piece of old top-harness wire approximately 8 ins. long. The spring is bent concave on one end so that it forms a quarter-circle around the pump rod. Then we bend the center of the wire to a circle of approximately 1-in. dia. This circle or coil gives the wire spring action. The other end of the wire is rolled to a ½-in.-dia. circle.

The circular end of the wire is fastened under the nut on the stud for the rod head on the pump rod. Then the spring wire is bent to hold the pump rod in the correct position in the side adjusting stand so that the pump-rod action is always the same.

The wire spring guides the pump rods without retarding its action. As soon as we cut the warp out of the loom, we remove the wire spring and replace the side adjusting stand with a new one so that looms are always in good mechanical condition. *Charles S. Bicksler, Lancaster, Pa.*

Portable Drill Has Its Own Light

When a maintenance man has to use a portable electric drill while standing on a ladder in a dark place, a light attached to the drill increases convenience and safety. The light is supplied by an ordinary flashlight secured by two metal clips to the top of the drill body. The clips enable the light to be attached or removed quickly. They can be made from ⅜-in.-wide steel strip. The shape of the clips should, of course, be dependent on the contour of the drill body. *C. T. Bower, London, England*

Truing Commutators

When commutators are trued by hand methods, the amount of grinding is dependent on the pressure exerted by the hands. Here's a more effective method that eliminates variations:

Work some blocks of soft wood into the shape of brushes. Make a mixture of shellac and fine nonconducting abrasive powder, and paint the mixture on the faces of the wooden brushes. When the shellac dries, the brushes will have abrasive faces.

Remove one brush from each rocker arm and replace it with one of the wooden brushes. With the wooden brushes held in place by the brush springs, the whole commutator face is exposed to the abrasive surfaces. Run the motor for a short time at light load. The result will be a perfectly true commutator face. *W. E. Warner, Essex, England*

Make Parallel Blocks From Old Picker Sticks

We used to have to replace the parallel blocks often on our C&K C-4 and C-5 looms because our looms run continuously for 120 hrs. per week. The parallel blocks ran our supply costs up considerably.

To h[illegible] reduce the costs, we cut up old impregnated plywood picker sticks in 1⅞-in. lengths. Next, we put the short pieces in a vise and cut them to the shape of a regular parallel block with a wood rasp and coarse file.

These homemade parallel blocks were tested in a few looms for several months. When they were checked for wear, we found that they lasted as long as regular blocks.

Now, we send all our broken and worn picker sticks to the mill carpenter shop, and the carpenters make them into parallel blocks.

We're saving money on the blocks, since we were throwing the old picker sticks away. There's another advantage, too; we don't ever run out of blocks because the carpenters keep the supply bins filled.

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2. Neutral . . . readily soluble in either cold or hot water.

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4. Eliminates dye precipitation, produces a good color yield, level shades and a soft finish.

5. Can be used in a neutral dye bath when dyeing cotton, rayon, wool, or any blend of these fibers . . . in the staple, yarn or piece goods.

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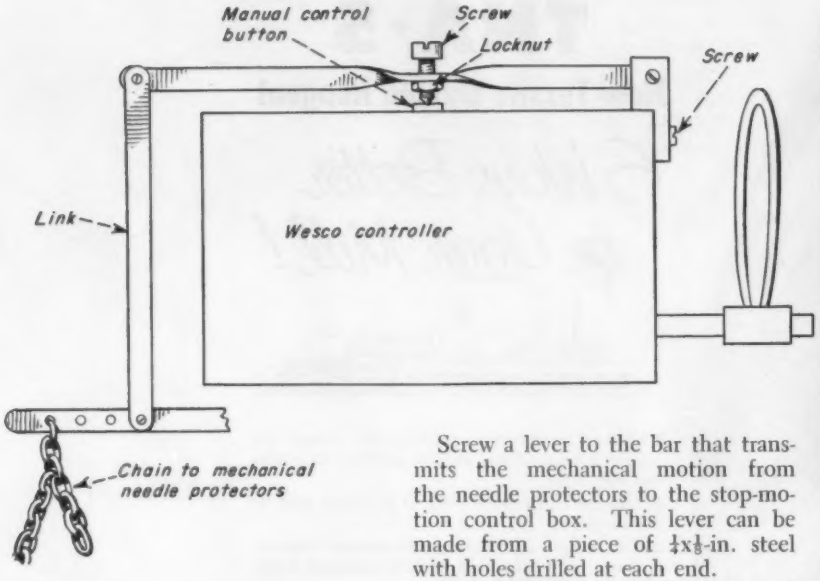


Stop-Motion Eliminates Bad Smashes

Although the newer stop-motion control boxes on our Wildman circular knitting machines have a no-voltage release that eliminates the need for a mechanical safety feature, the older types have no protection from power failures. When the power failed, the stop motion was inoperative and we had several bad smashes.

I was able to prevent this damage with a mechanical attachment that operates the manual release button. Here's how to do it:

Screw a lever to the bar that transmits the mechanical motion from the needle protectors to the stop-motion control box. This lever can be made from a piece of $\frac{1}{4}$x$\frac{1}{8}$-in. steel with holes drilled at each end.

Drill holes in a second similar rod and twist this rod so that a portion in the center is flat. Drill a hole in the flat portion opposite the manual-control button on the control box. Fit a screw with a locknut into this hole for adjustment on the manual button.

One end of this lever is screwed to the first lever, and the other end is pivoted on a pin held in a bracket screwed to the end of the control box.

The device needs no resetting after the machine has been stopped, and it has saved us a lot of trouble and machine damage. *Thomas Clews. Truro, Nova Scotia.*

Supply-Cost Board Saves Money

We have been able to reduce the cost of our weave-room supplies by placing small supplies, labeled with their costs, on a bulletin board prominently displayed in our weave room. The idea appeals to loomfixers, weavers, batteryhands, and slasher tenders.

For example, one shows checkstraps and pickers for loomfixers, flashlight batteries for weavers, bobbins for batteryhands, and masking tape for slasher tenders. Employees have become much more cost conscious and careful not to waste or abuse such supplies. *Waverly Mills, Laurinburg, N. C.*

Bobby Sox Are Boarded Faster When Dried

We make bobby sox with heavy 2x2-rib tops. The tops require a longer time to dry on the boarding forms than hosiery made with normal 1x1-rib tops.

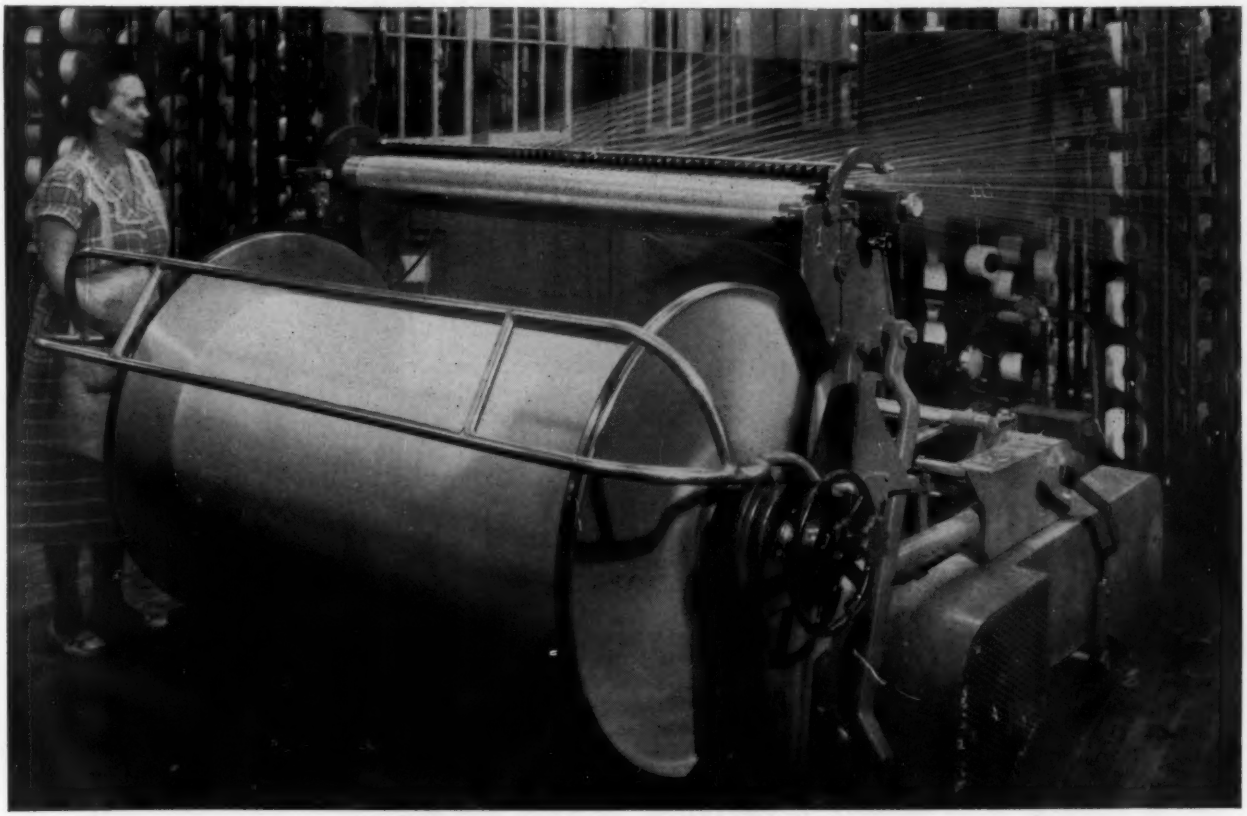
This longer time on the forms cuts down the boarders' production; so we partially dry the sox in a laundry-type tumbler dryer for a few minutes.

We empty the goods into the dryer in a loose state from the dye bag. After drying, the dye bag is hung on the drying machine; and the sox are transferred to the bag again ready for the boarding operation.

Stop Oil Leaks

The joints at unions and valves are difficult to keep oiltight. To keep oil from leaking at these points, coat the joint with oil-resistant paint. When the paint has become tacky, wind a layer of linen tape around the joint and add another coat of paint.

Blocked oilways often cause oil leakage. Remove the obstructions with a stiff steel wire equipped with a washer at one end and a hand brace at the other. Rotating the wire as it goes through the pipe eases its passage around bends and allows the washer to eliminate the obstructions. *W. E. Warner, Essex, England*



HAYES has done it again!

Here is the new giant 38" x 54½" Aluminum Section Beam for cotton and spuns! This beam, for the first time in the textile industry, is now going into leading cotton mills to *improve their efficiency, cut costs,* and *increase profits.* "Picture by courtesy of Laurens Mills, for whom Deering, Milliken is selling agent." One of these 38" beams does the work of two 28" beams, — saving one-half the handling time.

LIGHTWEIGHT—207 lbs.

CAPACITY—Net weight of yarn 1050 lbs.

SMOOTH and TRUE-RUNNING — No splintering, no distortion due to atmospheric changes, throughout the life of the beam. Insures better warps.

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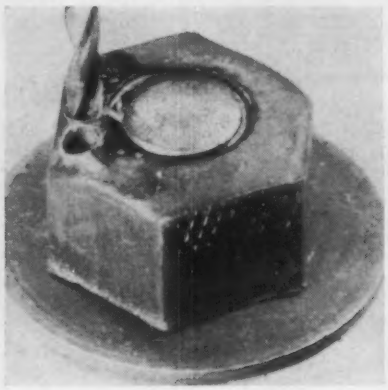


Destroy Frozen Nuts

When a nut cannot be loosened, it is advisable to destroy it and replace it with a new nut. A long wrench applied to the frozen nut endangers the stud, and a twisted stud can be an expensive item to extract and replace.

By weakening the wall between the internal thread and the flat exterior, the nut will be free to expand and ease its hold on the threads. To weaken the nut, saw through it with a hacksaw, as illustrated. One saw cut running the full depth of the nut often is enough to decrease the pressure between the threads. Cut as close as possible to the crests of the stud thread. It is usually easy to knock off the remnants of the nut with a few light hammer blows.

The method outlined above is suitable where there is sufficient space to allow the hacksaw to operate freely. Sometimes a nut is placed in a recess or a confined place where it can be reached only from above. In such instances, drill a series of closely spaced holes close to the bolt thread, as illustrated. Test the nut for looseness with a socket wrench after each hole has been drilled. Continue drilling holes until the nut is loose enough to be removed with reasonable force.

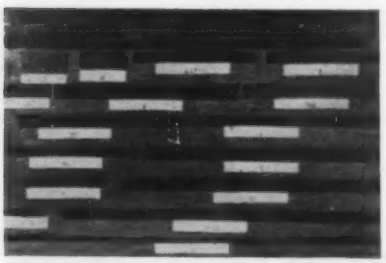
Before you resort to destruction, however, treat the nut with one of the commercial penetrating oils. Oil can make the job easier and may eliminate the need for sawing or drilling. *C. T. Bower, London, England*

Stepladders Help Knitters

To help our knitters thread up ends and adjust stop motions easier, we built special stepladders that can easily be pushed around. There is one ladder for each alley.

The ladders rest on four spring casters. When the knitter steps on the ladder, the legs sink to the floor and the ladder becomes rigid on four legs.

Hand rails are provided on both sides of the steps and around the top. To further increase safety, rough-surfaced mats are cemented onto each step.



Standardizing Leathers Cuts Loom-Parts Costs

We have several types of looms in our mill, and the harness straps and general loom leathers for each loom are in various sizes and shapes.

To keep from stocking an excessive number of leathers in our supply room, we buy each leather to a pattern we have set up. For example, when the binder leather for a given loom is bought, specifications for length, width, thickness, and shape are included; and no other leather is used on the loom.

Now that leather standards for all our looms have been made, we have mounted all the leathers used on each type of loom on a separate board. The leather parts are numbered to identify them.

One of the boards is attached to the weave-room wall near the looms it represents. Another identical board is kept in the mill supply room. So if a loomfixer needs a checkstrap, for example, he checks his board and orders the part by the board number, say No. 177.

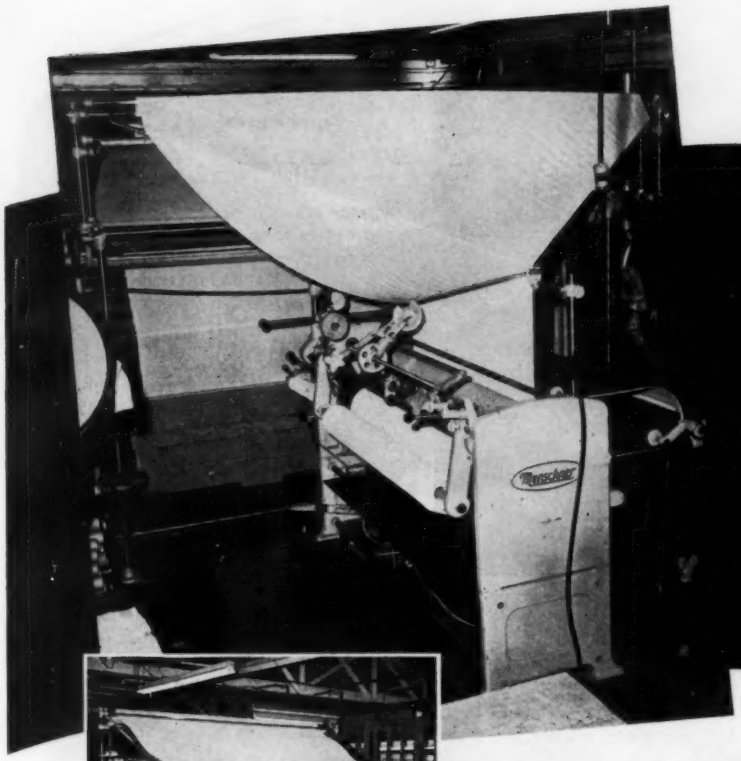
The results of this system are:

1. Only standard parts are used.
2. The parts are sure to fit.
3. Ordering by loomfixers is fast, and there's no chance of mixing orders.
4. A smaller stock of parts can be kept in the supply room.
5. Parts aren't thrown around at loomfixers' workbenches anymore; and, therefore, parts costs are lower. *Carl E. Popper, Kfar Ata, Israel*

How To Distinguish Orlon 42 from Acrilan

A rapid dye test that will distinguish Orlon 42 from Acrilan is as follows:

Make a water solution of 0.2% Du Pont anthraquinone blue (SWF conc. 150%) and 0.5% acetic acid. Boil samples of the unknown fiber for 5 mins. in the dye solution. Acrilan will dye a medium blue; Orlon will not stain. If the sample is already dyed, the shade will be affected considerably by this treatment in the case of Acrilan; Orlon will not change appreciably. *Du Pont Bulletin OR-48.*



New

HIGH-SPEED,

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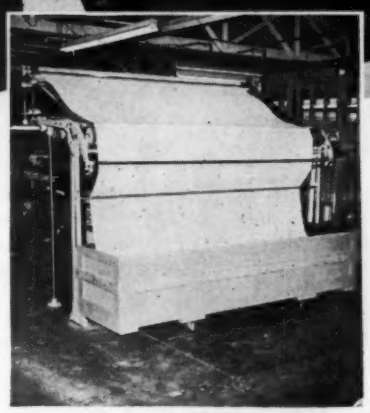

ALSO AVAILABLE is an attachment (Automatic Guider for Self Doubling, Model S.D. IV) which aligns selvages automatically.

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- Machine gives unmatched performance and accuracy even at high speeds.
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- Machine prints yardage after each run—insuring accuracy, and eliminating chance for error.

Write for complete details and interesting case history regarding actual mill use of this machine.

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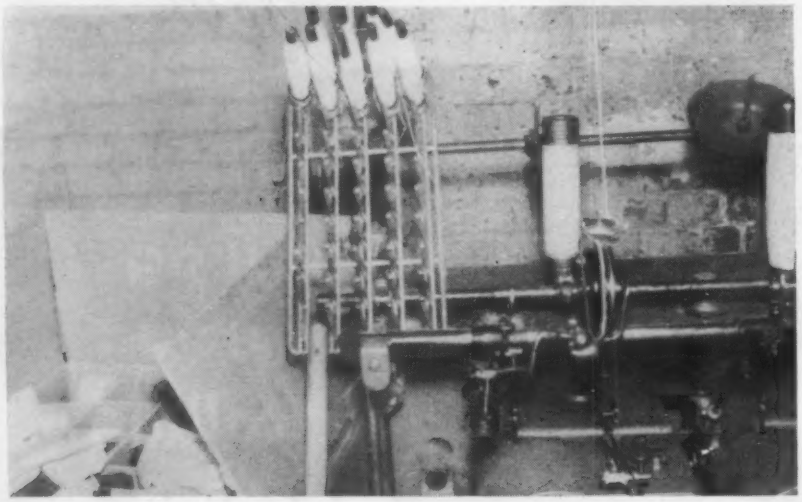
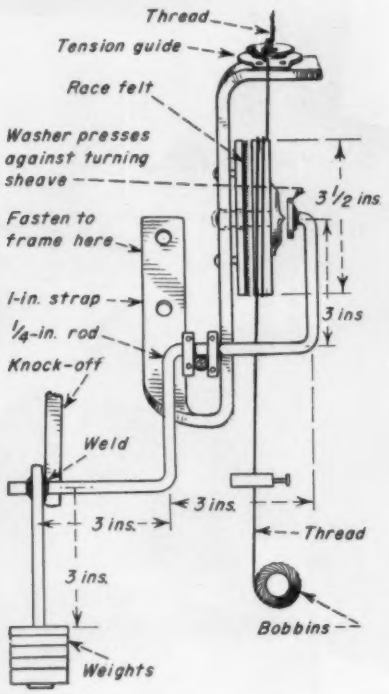




Use of Tension Prevents Hairy Yarn

Hairy yarn troubled us greatly in winding 900-den. and 150-den. glass fiber, 70-den. and 100-den. acetate, and 1,100-den. viscose on the Scharer winder. The glass was especially troublesome since it had to be run under considerable tension. Also, the glass was being made for the electrical trade, which will not accept hairy fabrics.

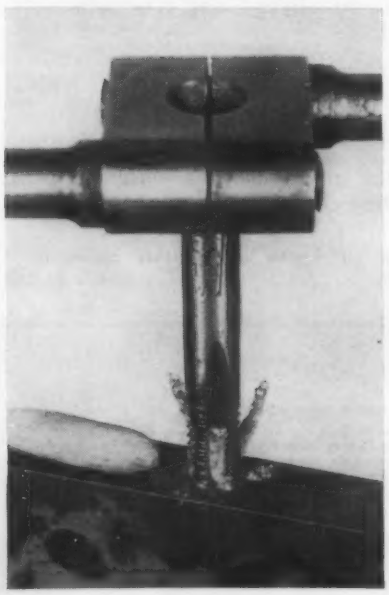
To overcome this hairiness and to make harder quills, we developed a tension device that works fine.

We took two plastic harness sheaves and cut one out on the lathe, as shown in the sketch. This operation involved cutting the sheave down about ¼ in. where the mount runs.

The other sheave was fastened to a bracket after a thick, tufted piece of race felt was glued to its face. We drilled a $\frac{3}{16}$-in. hole through two bushings and put a $\frac{3}{16}$-in. pin through the sheave so that it protruded about ¼ in. This last ¼ in. of the pin was ground to a point. A small tin-washer center was built up to a point in which the end pin could ride when the weight lever is pulled down.

At the top of the sheaves is part of an old tension cut to fit on the rod. The yarn passes through a hole at the top of the tension and makes a half turn under a light washer, after which it passes three times around the sheave and finally down to the quill. The three turns around the sheave prevent the yarn from pulling on itself.

Use of this device solved our trouble on heavy yarns, and it is helpful in running any low-twist yarn where high tension is undesirable. *C. M. Whitcher, Midland, Ont.*



Use Modeling Clay To Tap Clean Threads

A blind hole being threaded with a tap can't always be threaded to its full depth because the chips pack the hole bottom and prevent the tap from going all the way down.

To prevent chips from packing, roll a piece of modeling clay between the palms of the hands to form a slug and then drop the slug into the hole.

Under compression, the modeling clay extrudes itself up the tap flutes; and as metal chips are removed by the tap, they adhere to the clay and are forced out of the hole.

Use a nonhardening type of modeling clay. Such clay has an excellent lubricating effect and produces clean, smooth-threaded holes. *C. T. Bower, London, England*

Felt Strip Prevents Oily Belts

Belts often get saturated with oil that creeps along the shaft. A felt strip wrapped around the shaft about ½ in. from the bearing will eliminate this condition.

Sew the felt in the shape of a sleeve, and fit it tightly around the shaft. Then pry up the sleeve at one point with a pencil. Where the felt has been pried up, paint the shaft with glue. Then rotate the felt sleeve to form a coat of glue under the whole sleeve. The sleeve will soak up any oil running along the shaft or sprayed from the bearing.

Use sawdust to remove oil already on the belt. While the belt is moving, throw sawdust on it in such a way that the sawdust will be ground into the pulleys. The sawdust will absorb the oil. Then brush out the sawdust with a stiff bristle brush. *W. E Warner, Essex, England*

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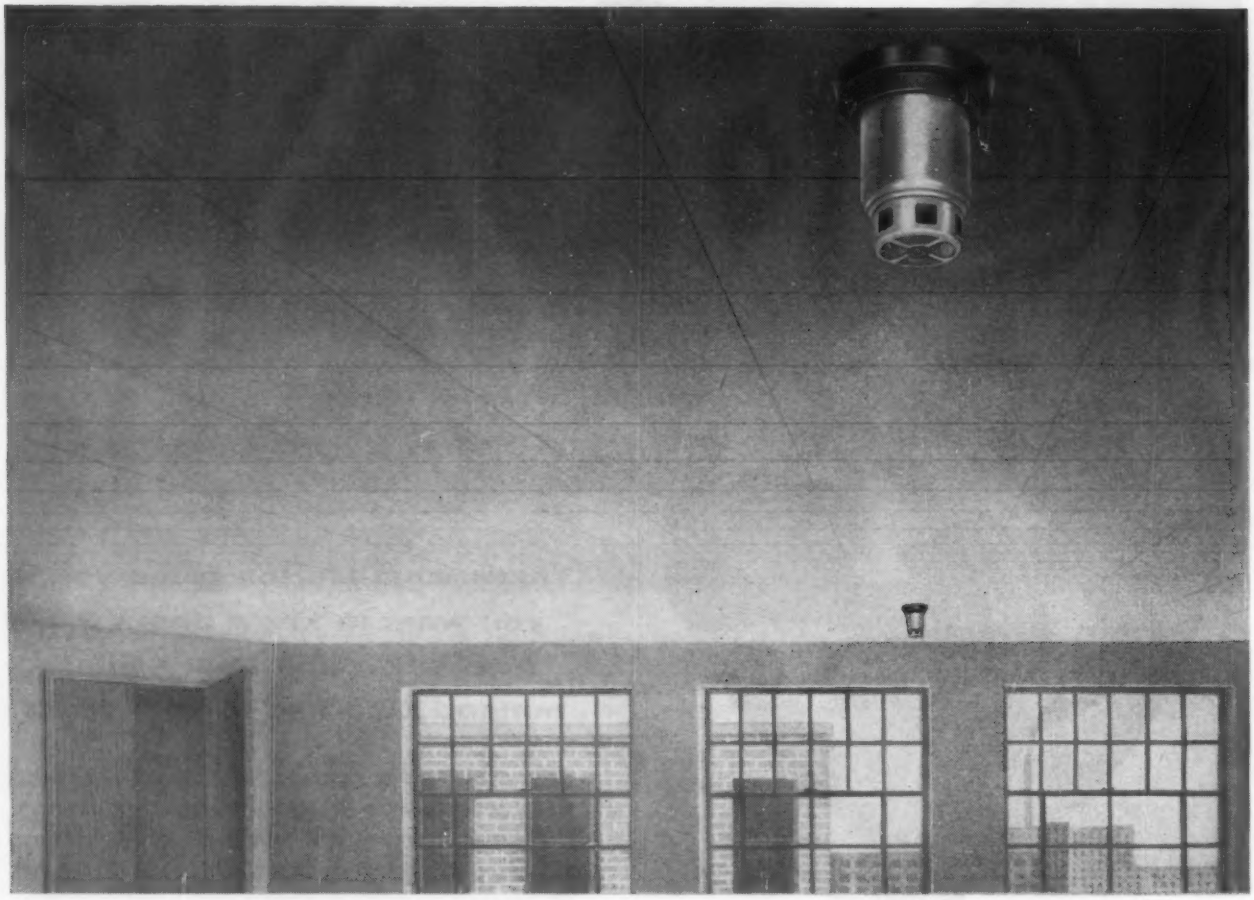

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TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y. August, 1955

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NO REPEATS . . . Listed here for August are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

Spinning frame—For cotton and synthetics. Super-draft system. 39-in. frame. 8- to 11-in. traverse. Top suspended-roll arrangement. Whitin Machine Works. (F-1)

Winding machine—For spun yarns. For knitting cones, warping cones, tubes, dye packages. 3- to 7-in. traverse. 9 to 18° winding angle. (Form A-95) Foster Machine Co. (F-2)

Bobbin winder—For all yarns. 12,500 rpm. spindle speed. Bunch control up to 30 yds. Pinboarding device. Automatic empty bobbin loader. Whitin Machine Works. (F-3)

Automatic filling winder — For all fibers. 15,000 rpm. spindle speed. Automatic removal of full bobbins and replacement with empty bobbins. Foster Machine Co. (F-4)

Knitting machine—32 feeds, 10 to 24 cut, produces 10.12 lbs. per hr. of 0.375 lbs.-per-sq.-yd. fabrics. Individual motor drive. Scott & Williams, Inc. (F-5)

Sample tricot machine—Knits all fibers on 21-in. warp. Furnished in 14, 28, and 32 gauge. Easily changed and adjusted to various gauges and patterns. Bearing Products Co. (F-6)

Embroidery machines—For lettering, quilting, emblems, braiding. Models A-5 and B-5. Columbia Sewing Machine Corp. (F-7)

Tacking head—For high-speed installations. 3,200 stitches per min. 55 yds. per min., with 5/8-in. stitch. Bulletin No. 348. Curtis & Marble Machine Co. (F-8)

Boarding machine—For pre- or post-boarding 200 doz. pairs of hose in 8 hrs. Heating elements produce 300 to 500° F. for heat-setting. Southern Mill Equipment Co. (F-9)

Hosiery machine—400 needle, electronically controlled. Knits women's seamless hose. Stops automatically if thread or needle breaks. Speeds from 40 to 200 rpm. Fidelity Machine Co. (F-10)

AUXILIARY EQUIPMENT

Drapemeter—Measures ability of fabrics to drape or hang in graceful folds. Produces a chart for comparison of various fabrics and finishes. Modern Machine & Tool Co., Inc. (F-11)

Moisture meters—To determine moisture content of textiles. Range from 2 to 20%, error under 0.25%. Custom made. Hart Moisture Meters. (F-12)

Across-the-line starter—Lint-free enclosure. Designed for loom motors. has overload protection and vibration-proof mounting. Cutler-Hammer, Inc. Bulletin No. 9115. (F-13)

Mill trucks—2,000 to 3,800 lbs. capacity. Roller-bearing rubber-tired wheels. Heavy-duty construction. Nutting Truck & Caster Co. Bulletin 54-TL. (F-14)

Adjustable-speed drive—Liquid-cooled eddy-current stationary-field coupling device. Output speed manually or automatically controlled. Eaton Mfg. Co. Bulletin SF1. (F-15)

Portable mixers—Supplied in 1/6 to 3 hp. with stainless-steel claw propellors. 3- to 12-in. dia. Driven by ball-

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READER SERVICE Continued

bearing motors in various enclosures. Craddock Equipment Co., Inc. (F-16)

Parallel-shaft gear drives—In single, double, and triple reduction models up to 2,000 hp. Cast or welded-steel housings. Splash lubrication for ball or roller bearings. Link-Belt Co. Bulletin No. 2619. (F-17)

Pilling tester—Multiple-spindle device to test fabrics. Circular rubbing motion imparted to fabrics. Choice of two rubbing surfaces. Custom Scientific Instruments. (F-18)

Bag packager — Cuts labor 80% in packaging textiles. Models adjustable to handle widths from 5 to 18 ins., lengths 8 to 39 ins. Errich International Corp. (F-19)

Far-infrared heating units—Can be installed in heat-lamp sockets. Higher intensity can be controlled to requirements. Edwin L. Wiegand Co. (F-20)

SUPPLIES & CHEMICALS

High-strength yarn—Will soon be produced in 8 grams per den. yarns of 800 den., 800 filaments, and 1600 den., 1600 filaments. For mechanical goods. Celanese Corp. of America. Bulletin TD-20. (F-21)

Resin concentrate—For adhesives, textiles, industrial finishes. Combines with additional urea for a variety of products. Allied Chemical & Dye Corp. (F-22)

Machine-mounting material—Carries 7 to 60 lbs. per sq. in. Reduces vibration. Can be cemented, bolted, or used without fastening. Korfund Co., Inc. (F-23)

Ball-bearing cam unit—For spinning frames and bobbin winders. Requires no lubrication after installation. Provides smooth operation. Precision Gear & Machine Co. (F-24)

Loom beams—With seamless steel barrels and cast-iron flanges. Available in 12- to 28-in. dia. in 2-in. increments. Milton Machine Works, Inc. Bulletin 54-S. (F-25)

Antistatic agents—For processing synthetic yarns and fabrics made from synthetics. George A. Goulston Co. (F-26)

Industrial tapes—In many styles for various sealing, holding, reinforcing, and other uses. Industrial Tape Div., Seamless Rubber Co. (F-27)

Saddle guides—For drafting frames. Feature ball bearings and Rulon bearings. Low power consumption. Low change-over cost. Dixon Corp. (F-28)

Resin catalyst—Offers increased catalytic activity with good bath life, fast cure, and minimum odor formation. Monsanto Chemical Co., Plastics Div. PTI 40-25. (F-29)

Aluminum formate—30% equivalent alumina content in solid form. Cuts

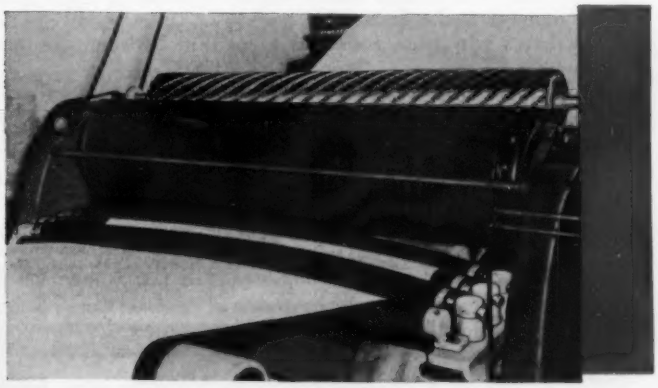
HERE'S WHY
JENKINS' METLKOR BRUSHES
are on
JAMES HUNTER SQUEEZE ROLLS

James Hunter Machine Co., North Adams, Mass., wanted a brush to stand up when removing acidified flock from their Carbonizer Squeeze Rolls. Jenkins' engineers designed a METLKOR brush with exposed metal parts of stainless steel and bristle of acid-resistant Nylon.

Mr. Frank B. Morrill, Chief Engineer, James Hunter Machine Co., says: *". . . we have been using Jenkins' brushes for flock removal on our Squeeze Rolls for about three years . . . They do a much better cleaning job than the brush previously used, and stand up several times longer . . ."*

This top textile machinery manufacturer has time-tested and proven the efficiency of patented Jenkins' METLKOR—the cylinder brush that lasts *many times longer* and *can be rebristled!* It can cut *your* brush replacement costs and do a better job, too.

If you have any standard or special brush problem, call or write: M. W. Jenkins' Sons Inc., Cedar Grove, Essex County, New Jersey.



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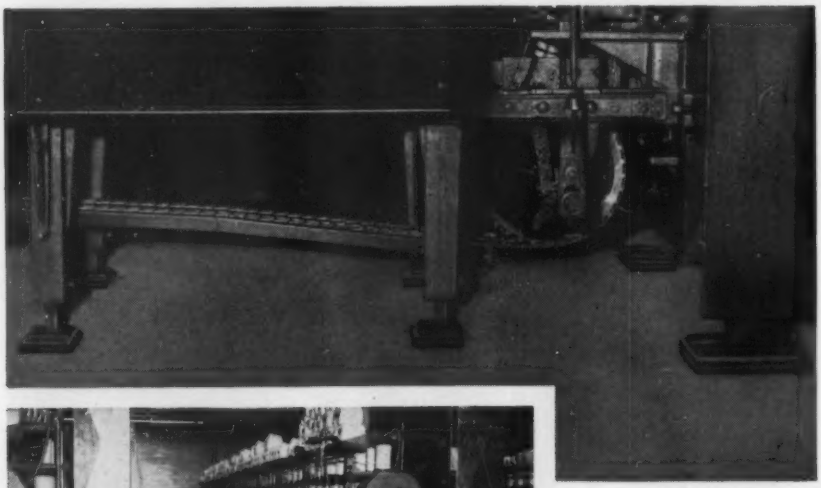

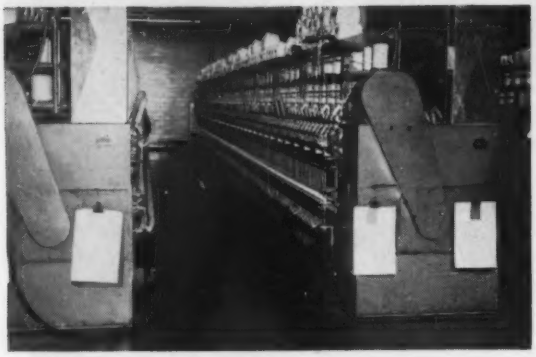

A Foster Winder and a McGlynn Hays frame mounted on Unisorb in Runnymede's new mill at Pickens, S. C. No bolts, no lag screws, no floor damage. Vibration decreased; operation quieter.

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"Some of the Advantages we have found with the use of . . .

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- Less time to install. No drilling of holes in the floor is required. Machinery may be installed in hours, where previously on some types, it took days.
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- No damage to the floor.
- Decreases vibration, acting as a cushion between the machinery and floor."
- Cut your installation and maintenance costs and eliminate damage to floors by anchoring *all* machines with Unisorb. No bolts, no lag screws, no drilling. Mail the coupon today.

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READER SERVICE Continued

shipping costs. Free of aluminum chloride and sodium sulfate. Aceto Chemical Co., Inc. **(F-30)**

ENGINEERING & MAINTENANCE

Glass blocks—For skylighting. Offer light without heat or condensation troubles. Installed in concrete frames made on the job. Pittsburgh Corning Corp. **(F-31)**

Vapor purifier—Provides clean steam for engines, superheaters, and turbines. Produces clean vapors from stills, evaporators, etc. V. D. Anderson Co. Bulletin 103. **(F-32)**

Masonry-wall sealing materials—For waterproofing, resurfacing, redecorating, floor hardening. Standard Dry Wall Products, Inc. Cir. No. 38. **(F-33)**

Stainless steels—In grades that do not corrode in weld areas. Weld easily and cost less than stabilized grades. Armco Steel Corp. **(F-34)**

Pipe threaders—For hand or power operation, pipe wrenches, pipe vises. Ridge Tool Co. Form 7596LP. **(F-35)**

Floor hardener—Hardens, dustproofs concrete, reduces wear 55%, water absorption to less than 28%. G. H. Tennant Co. Bulletin No. 81-112. **(F-36)**

Steam trap—Features a stainless-steel disk as the only moving part. Can be used at pressures up to 600 lbs. per sq.in. Sarco Co. **(F-37)**

Air compressors—In various capacities and types, electrically or gas engine driven. Curtis Pneumatic Machinery Div., Curtis Mfg. Co. Cat. C-100. **(F-38)**

Power-transmission products—Including silent chain drives, roller chain drives, couplings, driveshafts, and clutches. Morse Chain Co. Bulletin B20-53. **(F-39)**

Air filters—Oil-bath type. Double curtain for removal of dust in industrial ventilation systems. Equipped with automatic sprinklers. Dollinger Corp. Bulletin 500. **(F-40)**

GENERAL

Pneumatic tube systems—For transfer of mail, invoices, etc. Complete with vacuum unit. Lamson Corp. **(F-41)**

Stapling machine—For stapling filled cartons from outside. Air operated. Simple construction. Three anvil sizes available. Container Stapling Corp. **(F-42)**

Dispensers for adhesive tapes—Hand- and air-operated models, handling tapes from ¼ to 4 ins. in all usual materials. Derby Sealers, Inc. **(F-43)**

Automatic printing calculator—With automatic clearance, constant multiplication, and total control. Direct divi-

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The name Tufton in carpeting becomes Avisco

The name Avcoset in washable rayon fabrics becomes Avisco

The name Tricale in sheets becomes Avisco

(And the name Sylvania in cellophane becomes Avisco)

Fine products in home furnishings, fashion and industry, known by the single name, Avisco, will be easier for your customers to identify, easier for you to promote, easier for you to sell.

American Viscose Corporation, 350 5th Ave., New York 1, N. Y.

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To safeguard highest quality

To insure public regard for the Avisco name as a synonym for quality wherever it appears, a firm program of simple standards has been established. Products which meet or exceed these minimum standards of the American Viscose Corporation will be awarded the Avisco Integrity Tag.

In carpeting this means high-quality merchandise through strict control of pile fiber, pile weight and density, color-fastness, and construction.

In men's and women's apparel this means better washability, color-fastness, soil resistance, wrinkle resistance, and durability.

In sheets this means firm standards for performance in washability, wearability, and consistent resistance to shrinkage.

A unified advertising program to consumers

All Avisco's advertising dollars for *all* products will work toward one end. Launching this new streamlined program will be a series of powerful advertising campaigns to build public confidence, public preference for products that bear the Avisco name. First in the series:

Luxury shirts look new, after dozens of washings
Avisco is the reason

Enjoy guest-room sheets every night at everyday prices
Avisco is the reason

Twice as much fine carpeting for your money
Avisco is the reason

Striking four-color advertisements in *Life, The Saturday Evening Post, Fortune, Business Week, Vogue, Harper's Bazaar* will tell the Avisco story. Millions of readers will learn what Avisco means in economy, durability, soil resistance, beauty, ease of maintenance and, above all, *dependable* quality. Millions of viewers of "Home," the national TV show featuring Arlene Francis, will know that "Avisco is the reason" for the wonderful things that are happening to rayon and acetate.

the theme will give new vigor to your rayon and acetate business

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FOR... *wool-synthetic blends*

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CARBIDE AND CARBON CHEMICALS

READER SERVICE Continued

sion, two-speed motor. Remington Rand Inc. **(F-44)**

Light-colored corrugated paper containers—For better-appearing shipping cartons. Hinde & Dauch **(F-45)**

Industrial conveyor—Roll, belt, wheel types. Switches, supports, for gravity or power conveyors. Metzgar Conveyor Co. Cat. No. 54. **(F-46)**

Hand-pulled lift trucks—Hydraulic platform lifter. 2,000- to 5,000-lb. capacities. Compact and maneuverable. Market Forge Co. Bulletin 1005-A. **(F-47)**

Employee education—Safe working practices and attitudes. 16 pages, four-color cartoons, and text. National Safety Council. **(F-48)**

Steel shelving—Supported by clips mounted without tools. Various sizes and load capacities. Frick-Gallagher Mfg. Co. Cat. No. 701. **(F-49)**

Transfer labeling machine—Produces four-color labels, decorations for garments, packages 500 doz. per day capacity. Kaumagraph Co. **(F-50)**

MACHINERY'S HANDBOOK, by Erik Oberg and Franklin D. Jones; The Industrial Press, 148 Lafayette St., New York 13, N. Y.; 1911 pages, $9.00.

The 15th edition of this handbook makes available in clear, concise, ready-to-use form the information required by machine designers, mechanical engineers, tool designers, mechanics, shop management personnel, and students in engineering and shop-training courses.

The handbook contains mechanical tables, rules, formulas, and general data. Items in the various sections can be located readily in the index.

CONTINUED ON PAGE 166

TORRINGTON NEEDLES

meet the high production standards

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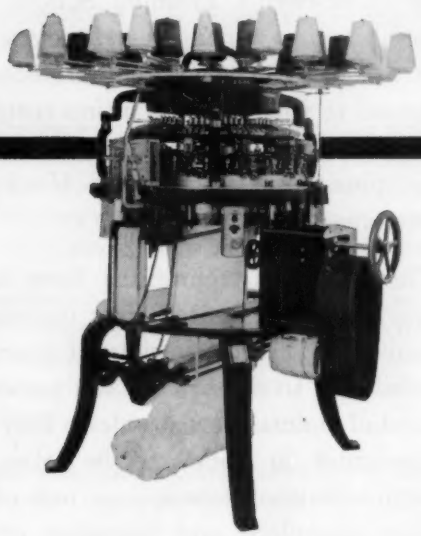
TAI Jacquard Machine...



WHERE VERSATILITY AND HIGH-SPEED PERFORMANCE PUT MAXIMUM DEMAND ON NEEDLE EFFICIENCY. The improved TAI "Circular Jacquard" Interlock & Plain Transfer (Rib) Knitting Machine is a fully automatic, multi-feed unit that enables the knitter to keep pace with fashion changes by varying his garment styles.

"We have always used Torrington Needles on our machines," says Mr. Charles F. Miller, Vice President of Jacquard Knitting Machine Company, "for we know that the high quality and fine workmanship of these needles will help insure dependable machine performance in the field."

For the same reason, too, leading knitting mills specify Torrington Needles year in and year out, profiting from their superior performance through steadier, more dependable production of first-quality merchandise.

To realize the best performance from your machines, equip them with Torrington Needles, designed, produced and backed by needle experts with generations of "know-how." Your needs will be met promptly when you call the Torrington office nearest you.

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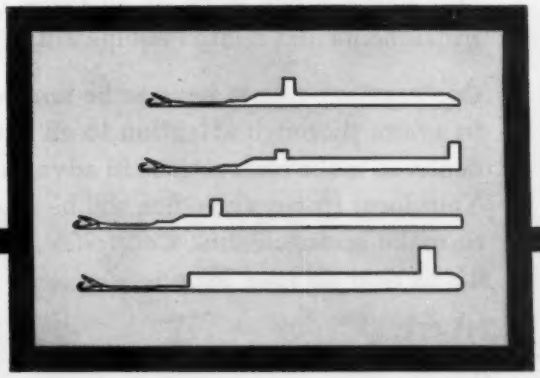

There's a **TORRINGTON NEEDLE**

for every machine...for every type of knitting!

Practical service training at Honeywell's school . . .

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Your instrument maintenance men can get a real education in the most up-to-date methods for servicing instruments, at Honeywell's Training School. Any organization which uses Honeywell instruments can send maintenance personnel to this school. Tuition costs you nothing, for this school is maintained as a "plus-value" service to Honeywell customers.

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There's nothing academic about this school. The emphasis is placed on practical knowledge. Theory through lectures and textbook study is liberally supplemented by laboratory sessions and actual bench work on all types of instruments and related equipment.

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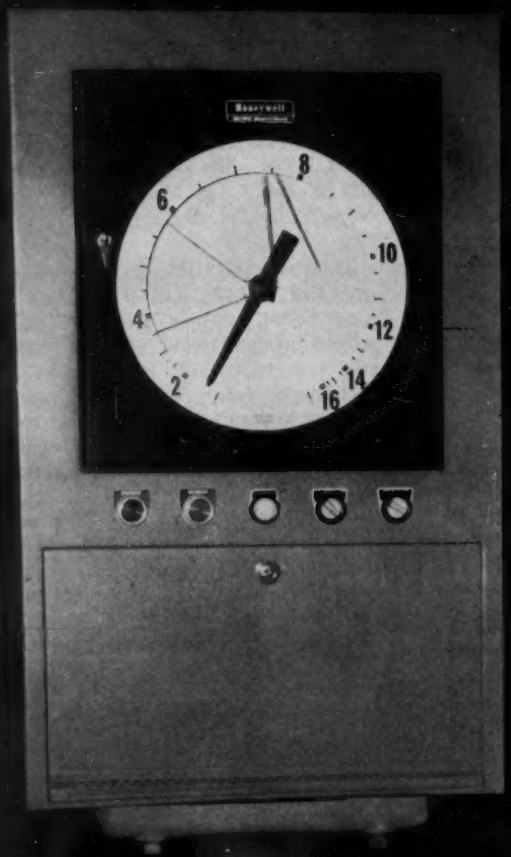
Improved *Moist-O-Graph* is now simpler, more accurate

For full technical data on the ***Moist-O-Graph,*** *write for your copy of Bulletin No. 9306,* "*Instrumentation for Slasher Room Processes.*"

for every machine . . . for every type of knitting!



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The latest improvements in the ***Moist-O-Graph*** *can help you control the slashing operation at optimum conditions. Wet or over-dried warp is eliminated . . . weavability improved.*

THE *latest advances in the electronic* Moist-O-Graph® bring even greater refinements in sensitivity, accuracy and simplicity to the control of warp regain. A new design, embodying the most modern engineering techniques, gives you these added features:

Fewer moving parts. Simplified construction makes the instrument circuit integral with the measuring circuit . . . eliminates many mechanical components. The new system is all-electronic. It's easier to maintain, and requires less spare parts stock.

Improved control. The new circuit gives closer overall control performance . . . holds regain within narrow limits. It incorporates an automatic means for holding at the set point during creeps, stops or shutdowns.

Easy calibration. Checks of calibration can be made quickly with a conveniently located switch.

The *Moist-O-Graph* takes the guesswork out of regain control. It reads regain directly for most fibers, blends or sizes. A turn of a dial calibrates it for the warp you are running. In scores of mills, it has proved its ability to step up production and quality in the slasher room, and to increase weaving room efficiency.

For details of how this improved instrumentation can go to work in your mill, call your local Honeywell sales engineer . . . he's as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, Wayne and Windrim Avenues, Philadelphia 44, Pa.—in Canada, Toronto 17, Ontario.

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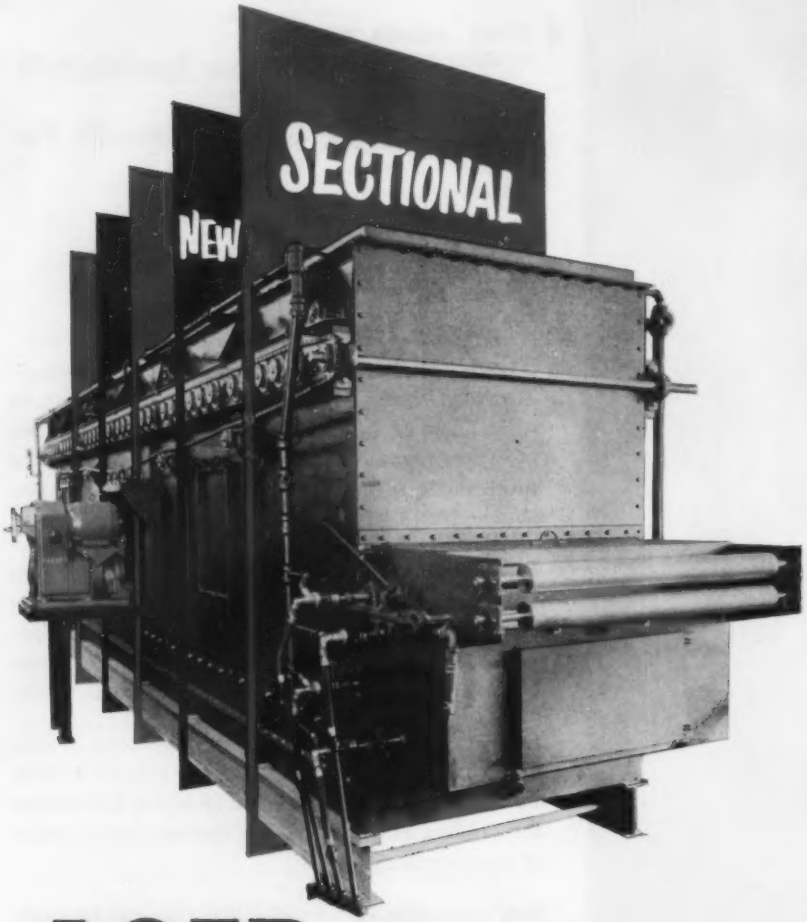

AGER for ageing, steaming or continuous desizing of piece goods

This newest COOK AGER is built in sections allowing additional capacity to be added when needed. Each section is assembled at our plant and shipped as a unit ready to install, thus saving time and expense. The design and construction of this versatile machine permits it to be used interchangeably for ageing of goods printed with vat, acid or other types of colors. Sectional design is also used for steaming of goods dyed by the pad-steam continuous method or for continuous desizing of cotton and synthetic goods. Complete information will be furnished on request.

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BOOK REVIEWS Continued

EVERYTHING AND THE KITCHEN SINK, Farrar, Strauss and Cudahy, Inc., 101 Fifth Ave., New York 3, N. Y.; 160 pages, $4.00

Here is a story told in pictures and words of progress and the makers of progress, of the men who have made American civilization as it is today and who have built the basis of an even better future. This book points out the ingenuity, initiative, and foresight these men of progress possessed and of the almost unbelievable results they achieved.

Excellent photographs on practically every page show dramatically the progress that has been made and give the reader a perspective with which he can evaluate America in 1955 and foresee the progress that will create our tomorrow.

TRADEMARK MANAGEMENT, by The United States Trademark Association, 522 Fifth Ave., New York 36, N. Y.; 130 pages, $5.00.

Here is a book that tells you what to look for in a trademark and what to avoid. It outlines the steps you have to take to create, register, and protect a trademark. It explains how and why trademarks acquire value through use rather than through invention and defines what is and what is not registerable.

This book is a practical guide for executives, department heads, and responsible employees of any business that manufactures, advertises, and sells a trademarked product.

MANUAL ON INDUSTRIAL WATER, by American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.; 430 pages; $5.00

This manual, now in its second printing, offers a broad discussion of the nature and uses of industrial water and gives up-to-date test methods and specifications developed by leading authorities in the field. This second printing includes 11 new test methods, 8 revisions of existing methods, and several proposed methods.

The manual is intended as an authoritative reference source for executives and plant designers; personnel working in industrial operations involving the use of water; and analysts, operators of special instruments, engineers, and consultants.

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Denman Pioneer's ability to deliver "Lowest Cost Per Loom Per Year" accounts for its world leadership. In addition, Denman Pioneer has the best running qualities of any picker made today. To match the best picker with the best service, Denman and Terrell are experts in fitting pickers to your individual picker problems. Terrell representatives will gladly make recommendations and furnish samples for tests.

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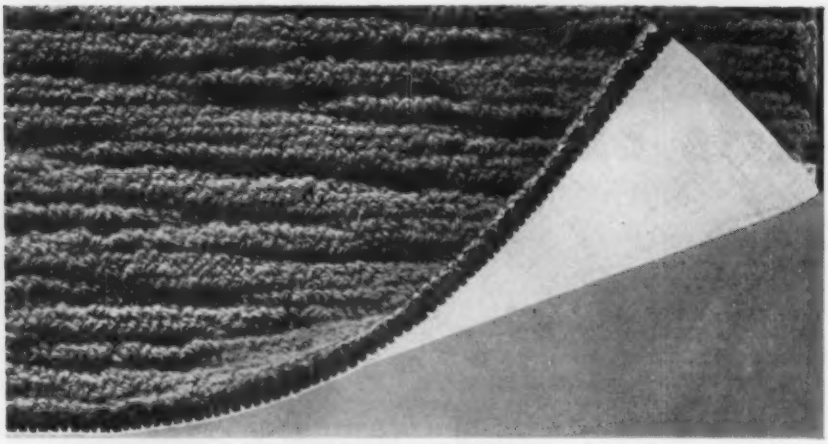

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After twenty years of pioneering in latex rug backings General Latex can give you just about any combination of qualities you desire: stiffness or flexibility, smooth or harsh hand, colored or neutral, and, for any fibre or blend.

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General Latex upholstery backings . . . eliminate fraying on machine or die-cut fabrics for furniture and automobile interiors, provide just the right type of "hand", and can be applied to any kind of textile fibre — cotton, wool, synthetic, or blends of fibres. They are compounded specifically to meet your requirements.

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COMBED YARNS

CONTINUED FROM PAGE 99

Packaging and shipping are done in a room off the winding department.

Glass Walls Are Used

All major departments are separated by glass partitions so that humidity can be controlled. Bahnson Humiducts and Parks-Cramer overhead blowers are used throughout the mill. Humidity is maintained at 55% except in the winding and finishing departments, where it is 70%.

Slimline fluorescent lights have been installed throughout the mill.

Building improvements include a new office building with modern lines and an indoor garden in the reception room. Other features are the first-aid room, the laboratory, and a classroom for training supervisory personnel.

Inspections Are a Must

Inspections covering machinery, safety, and housekeeping are a must with Superintendent M. E. Seals.

The basic inspection is the weekly machinery check of each department by the overseer and his section hands as a team. Several times a year these teams inspect departments other than their own.

Findings are tabulated by the overseer and reported to the superintendent, who follows up to see that faults are corrected immediately.

Typical of the findings of the weekly inspections are: "Tensions stopped on winders Nos. 5, 17, 2, and 6"; "crooked steel roll at the head of No. 86 spinning frame"; "trumpets stopped up on Nos. 7, 9, 25, and 31 spinning frames"; "mixed bobbins on No. 2 twister"; "loose V-belts on Nos. 48 and 49 twisters."

Repair Records Are Kept

Detailed mechancial inspections, with the machines practically dismantled, are made twice yearly.

Superintendent Seals keeps a book in which a page or more is devoted to each individual machine in the mill. This record enables the maintenance department to learn at a glance the repair history of the machine. If certain machines have caused excessive trouble, special attention is given them. The book helps in locating the basic cause of the deficiency.

In addition to the regular weekly inspections made by the supervisory teams, a monthly safety-and-housekeeping inspection is made by teams of three nonsupervisory employees from each shift.

These employee-inspection groups go over the mill with a fine-tooth

HOW STAINLESS STEELS BOOST DAY-TO-DAY SAVINGS in textile production

Crucible Rezistal® Stainless Types for Textile applications

STAINLESS TYPE	NOMINAL % Cr	Ni	Other	USED FOR
302	18	8		General Purpose
303	18	8	S	Free-machining
304	19	9	Low C	Welding
309	25	12		High Temperature
310	25	20		Higher Temperature
316	18	12	Mo	High Corrosion-resistance
317	19	13	Mo	Higher Corrosion-resistance
318	18	12	Mo, Cb	Welding (stabilized)
321	18	8	Ti	Welding (stabilized)
347	18	8	Cb	Welding (stabilized)

To plant and mill operators, stainless steel is not a luxury metal—but the most economical construction material they can use wherever there's need for its exceptional corrosion-resistance, strength and cleaning ease.

Add to these properties its remarkable resistance to wear and abrasion – and you can see why Crucible stainless steels mean longer service life, increased production, reduced maintenance and cleaning time, fewer replacements and repairs... throughout the textile plant.

See how stainless steel can boost day-to-day savings in your plant. Get practical, economy-minded advice on stainless selection, fabrication and maintenance in your free copy of "Making the Most of Stainless Steels in the Textile Industry." Send for it today. Or call your local Crucible representative. *Crucible Steel Company of America, Henry W. Oliver Building, Pittsburgh 22, Pa.*

CRUCIBLE first name in special purpose steels

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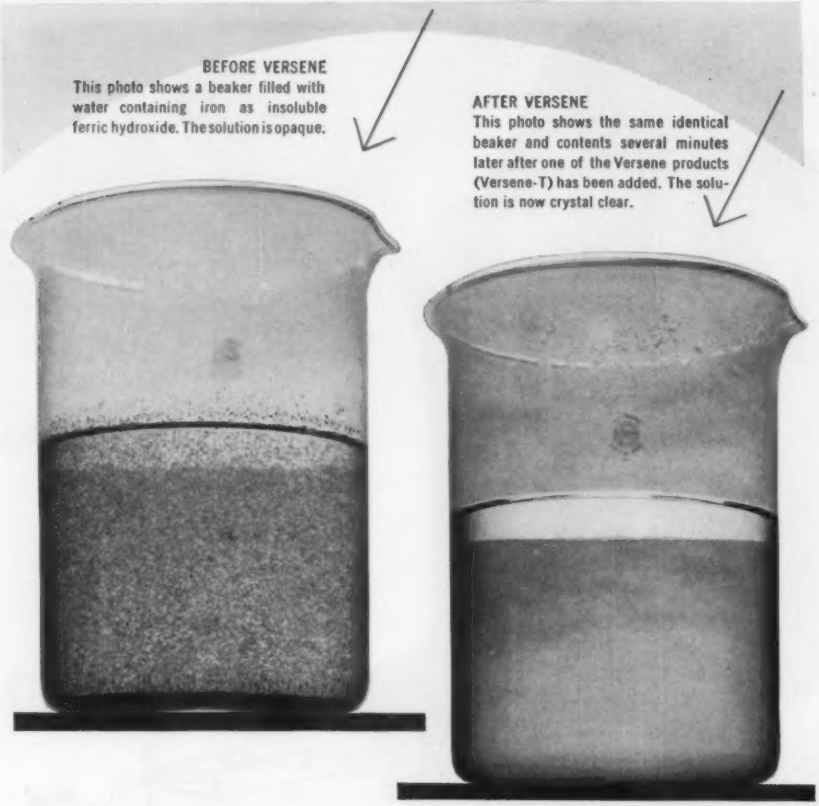
BEFORE VERSENE
This photo shows a beaker filled with water containing iron as insoluble ferric hydroxide. The solution is opaque.
AFTER VERSENE
This photo shows the same identical beaker and contents several minutes later after one of the Versene products (Versene-T) has been added. The solution is now crystal clear.

how to solubilize INSOLUBLES

...Versene®

SEEING IS BELIEVING

The illustrations give you a visible demonstration of Versene's chelating power over metals in solution. Versene makes them vanish. They are still present but can no longer be seen or detected by ordinary chemical procedures. Stability is inherent and reversion does not occur. This is because chelation is complete and the metallic ions are held harmless in the powerful coordinate bonds of the Versene itself.

VERSENE — KEY TO CHELATION

Versene is your key to chelation. When faced with a problem in metal ion control call on the Versene best designed to help you. There's an efficient Versene for every chelation job — regardless of pH. Outline your situation. Ask for confidential chemical counsel, technical data and the *right* sample.

KEY TO CHELATION

THE DOW CHEMICAL COMPANY
MIDLAND • MICHIGAN

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Barada & Page, Inc., Houston, Dallas, Corpus Christi, Odessa, New Orleans, St. Louis, Wichita, Oklahoma City, Tulsa, Kansas City, Mo.
George Mann & Co., Inc., 251 Fox Point Blvd., Providence, R. I.
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Braun Corporation, Los Angeles, California
Van Waters & Rogers, Inc., Seattle, Wash., & Portland, Ore.
European Manufacturing Agent:
Resolinfabriken Aktiebolag, Helsingborg, Sweden

comb and report individual findings at a dinner meeting of the Car-Ru Club attended by the mill officials and the entire supervisory staff. An average of 60 persons are members of this club, named after Carl Rudisill, founder of the mill.

Results of the inspections are read after dinner, and individual supervisors are assigned to correct deficiencies at once. Follow-up is made by the superintendent.

Mill officials believe that this system has contributed greatly to Carlton's low accident rate, good employee relations, and the mill's reputation for quality products.

POINTERS FOR SUPERVISORS

CONTINUED FROM PAGE 121

Also, encouragement gives him an added reason for trying. He wants to justify your confidence that he has what it takes.

Your own experience as a supervisor gives you a sound basis for the *Do's* and *Dont's* of encouragement. Here are some rules to check against your own observations:

1. Understand the difference between praise and encouragement. Praise is concerned with immediate success, a present performance that you want to recognize and reward. Encouragement, on the other hand, is usually given when an employee not only has no favorable accomplishment to offer but actually is slipping. In short, praise cheers; encouragement cheers up.

2. Encouragement builds motivation. Even where an employee has the skill required to do a job, encouragement helps build his desire to do the job. Another way to look at it is to think of encouragement as reducing hesitation and building self-esteem.

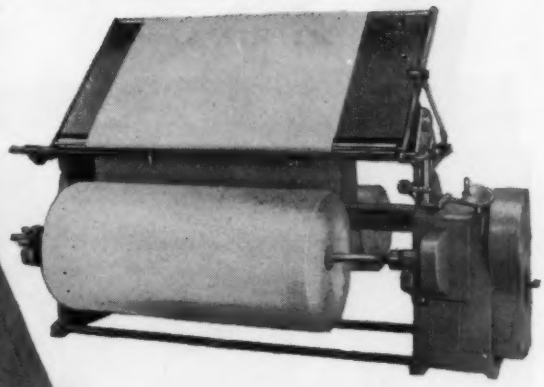
3. Some people require more, some less. It's an interesting fact that for some employees, a single word of encouragement is enough. To get the same effect with another person, you might have to talk for hours. Similarly, some people require fairly frequent doses and depend on encouragement from the very beginning of a job to the end. At the other end of the scale, you'll find individuals who pin the "soft soap" tag on encouragement of any kind.

4. Watch the timing. "My boss encouraged me when I needed it most." It's a fortunate employee who can say that, and maybe some of the people in your department have been lucky enough to be able to make that statement about you. Perhaps you have even had the occasion to say it of your own superior. The point is, it's when

YOUR *Quality* FABRICS

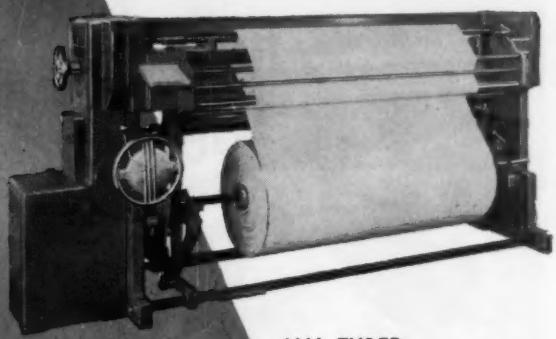
gain in customer acceptance when inspected and packaged on Van Vlaanderen Machines

Fussy customers get a good first impression of your quality fabrics when they are packaged and inspected on Van Vlaanderen machines. Here are three modern machines that make your operators' work easier and more accurate.



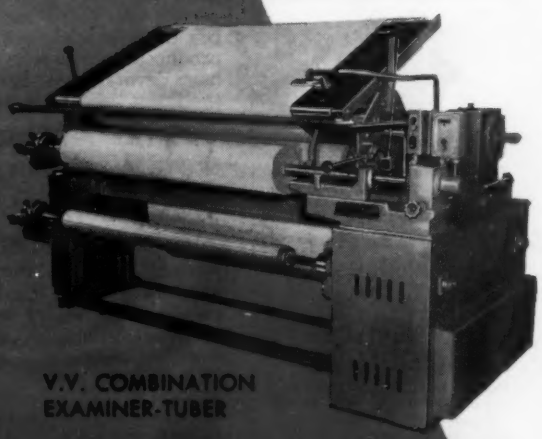
V.V. INSPECTALL

THE V.V. INSPECTALL is built to a sturdiness and precision not before available. Wide-range variable speed control, instantly reversible, one-motion clutch control, and let-off brake are all operated from examing position — giving high operating efficiency. Any fabric, in rolls up to 36", can be examined face or back. Adjustable examining board. Precision clock measures yards and eigths.



V.V. TUBER

THE V.V. TUBER assures accurate measuring and a better package, especially on fabrics that benefit from tensionless processing. The tension is always under operator's control — from near zero tension to medium tension. Constant cloth speed up to 200 Y.P.M., accurate measuring (measuring drum is driven), controlled density of package, simple, effective selvage alignment, easy loading and operating are other important features.



V.V. COMBINATION EXAMINER-TUBER

THE V.V. COMBINATION EXAMINING AND TUBING MACHINE automatically tubes while your operator inspects or he can tube alone. Tubing is better because the automatic selvage guide is quicker in making corrections on all fabrics from sheers to the heaviest duck, plastics or paper. Speed changes from the slowest examining rate to full tubing are easily made through finger tip control, governing a variable speed drive. For rejected yardage (seconds) a supplementary center bar is provided.

Our engineers are anxious to show you these and other Van Vlaanderen machines.

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WORLD'S LARGEST MANUFACTURER OF MACHINES FOR PROCESSING MODERN FABRICS

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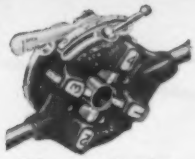


No. 504 . . . easy to set-up . . . fast to use . . . precision made . . . gives perfect threads every time.

RIGID
PIPE THREADERS

Today, the craftsman is demanding more from the tools he uses. He buys tools based on performance . . . accuracy . . . dependability . . . and long service life. That's why RIGID Tools are number *ONE* in demand. They are designed and produced by men who have experience . . . who have devoted their lives to the manufacture of the finest line of pipe tools available.

No. 4P geared die stock gives perfect threads on 2½" to 4" pipe with four sets (5 each) of dies.

SPECIFY THE RIGID "502" . . .

for use on any power drive. Single set of self-contained dies adjusts quickly to ½" and ¾" pipe . . . regardless of position of quick opening lever.

No. 65R for perfect threading by hand or with power . . . for use on 1" to 2" pipe . . . jam-proof . . . kicks out automatically when standard length thread is cut.

SPECIFY THE RIGID "504" . . .

for use on any power drive. One set of full width dies adjusts to 1", 1¼", 1½" or 2". Quick-opening dies retract immediately while power drive is operating . . . eliminates slow back-off. Four-jaw work-holder sets to size instantly . . . no lead screw jam.

Small Ratchet threaders capacity from ⅛"-2".

RIGID
WORK-SAVER PIPE TOOLS

MANUFACTURED BY THE RIDGE TOOL COMPANY • 557 Clark Street, Elyria, Ohio

an individual is down in the dumps that encouragement is likely to accomplish the most for him.

5. Encouragement won't dispel resentment. Keep in mind the lessons to be learned from the two case histories. Where an employee's poor performance is due to a negative attitude—dissatisfaction caused by a feeling that he has been treated unfairly, for example—encouragement just won't work. In such cases, the employee would benefit much more from a chance to tell you what's wrong and get a load off his chest.

6. You must mean it. In all cases, encouragement must be sincere to be effective. Face the fact, therefore, that in the instances where you are dealing with a person you believe can't make the grade, encouragement won't work.

Also, don't overdo. Don't let your people get to think of you as a professional back-slapper.

Encouragement and Criticism

Chances are the German poet Goethe would have made an excellent supervisor. He pointed out, "Encouragement following censure is as the sun after a shower." No doubt about it, you can take the sting out of criticism by concluding it with a few words that encourage by looking to brighter future prospects.

CARDING PROBLEMS

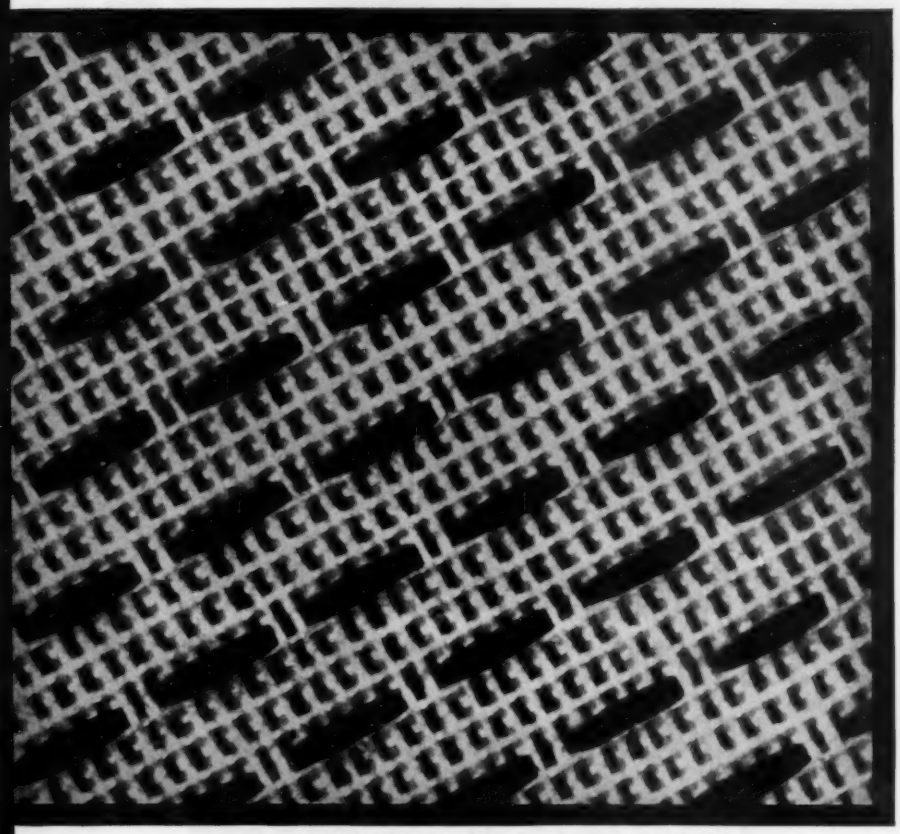
CONTINUED FROM PAGE 93

completely sets the card that was ground by the No. 1 set or lead rollers. He pulls, cleans, and resets the screen. Cards that carried the Nos. 2 and 3 roller sets are set only at these points: cylinder to doffer, comb to doffer, lickerin to cylinder, and feed plate to lickerin.

2. Each grinder has 38 cards. He puts two cards to grinding each morning, cleans and prepares the cards for grinding, oils the cards, does maintenance, and does his own setting. He sets backs every 912 hrs. and fronts after every grinding cycle when he puts cards back in production.

3. Cards are ground on all shifts. At every grinding cycle, the front of the card is set as follows: doffer to cylinder, comb to doffer, stripper to doffer and cylinder, and stripper comb to flats. All gears, brushes, nuts, and capscrews are checked. On every other grinding cycle, the flats and backs are set as follows: doffer to cylinder, flats to cylinder, stripper to doffer and cylinder, mote knife to lickerin, feed plate to lickerin, and back plate.

The Close-up of Construction



An original fabric using B & C yarns magnified 100X.

GUARANTEE

The Quality of Boger & Crawford Yarn is guaranteed — the highest tribute we can pay it!
Signed

Frederick Boger

The Yarn that makes Fine Fabrics

You get fine fabrics every time with BOGER & CRAWFORD Bleached Dyed and Mercerized yarns. That is because you get quality yarns.

Illustrated is an unretouched photograph of a new fabric made with B & C yarn. Judge for yourself the distinctiveness of the fabric. Note the appealing close-up of construction.

You are invited to write today for full advantages offered by B & C quality yarns.

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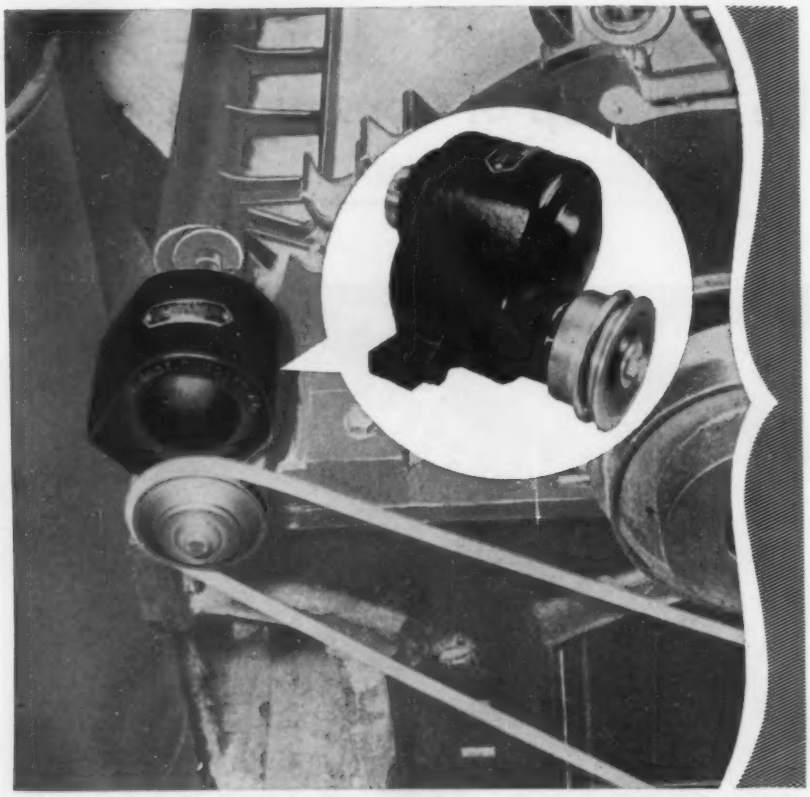

OUTSTANDING SUPERIORITY OF SOUTHERN STATES COMB BOXES PROVED IN NATION'S MILLS

More than 30,000 Southern States Comb Boxes have been placed in service during the past 7 years—equal to 35% of all the nation's cotton cards. Many mills have changed over 100%.

This overwhelming acceptance proves conclusively that mills can easily justify the small investment. Cardroom overseers quickly recognize the savings that result from their use: no oiling, cleaning or maintenance for the life of the unit; steady, even strokes to drive the comb with perfection; elimination of hot-running, leaky, rattling old-style boxes and their headaches.

Southern States Comb Boxes are furnished complete with an adjuster base for mounting on any make of cotton card. Bases are double tapped to permit rapid mounting on either right or left hand cards. Installation is quick and easy.

Let us show you with facts and figures how it has paid hundreds of mills to install Southern States ball-bearing, sealed-for-life, Comb Boxes; prove how much they will save you in one year. Write direct for a representative to call at your convenience.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

Screens are removed twice a year.

4. All cards are ground every 528 hrs. Flats are set one round, backs the next, and only the doffer on the third round. Each grinder grinds and sets three cards a day. He oils and fixes 66 cards and blows off the grinding cards.

5. Cards are ground on each shift. The grinder cleans each card out and blows it free of chokes and oil. He checks all gears, belts, and pulleys and fills the thermal oilers. He straightens up any mashed places before beginning to grind. Flats are set every round and backs every other round. The flat-end brush and dandy brush are set to brush well but not drag.

Overhaul Roving Frames Yearly

Eleven mills reported annual roving-frame overhauling. The overhauling cycle varied from three months to a year. Here are some typical reports on points checked and work done in overhauling:

1. Rollers and roller necks, builder motion, flyer balance, compound, spindles, and steps.

2. Top rolls, steel rolls, steel-roll stands, cap-bar nebs, top cone, bottom cone, builder motion, lifting shaft and gears, knock-off motion, compound and jack shaft, lifting racks, hank clock, gears in head end, bobbin gears, bobbin-gear drive shaft, spindle drive shaft, spindles, bolsters, draft gearing, twist gearing, lay and tension gearing, weight chains, and traverse motion; plumb spindles, line and level frame, line and level bolster rail, and check and balance flyers.

3. Check spindles and bolsters every six months. All other points are checked every other round.

4. All points are checked and frames are completely overhauled annually. Aprons and rolls are cleaned every six months.

5. Steel rolls cleaned, top rolls buffed, weighting units inspected, carriage cleaned and inspected; gears, shafts, and bearings cleaned and checked for wear.

6. Maintenance-work report or checklist insures checking of all important points. Frame is cleaned thoroughly. All bearings and gear trains are washed and cleaned. Bottom steel rolls are cleaned. Top rolls are buffed or re-covered. All bearings and moving parts are properly oiled after cleaning. All broken parts and badly worn parts are replaced. Frame is lined and leveled, rolls are set, and spindles are checked and plumbed. Rolls are scoured every 13 weeks.

For more information, write direct or use Reader-Service post card.

THE WHITEST FINISH EVER

with STANDAFIN 77

All the new synthetics—dacron, orlon, nylon and arnel—will remain white indefinitely during mill or shelf storage if finished with STANDAFIN 77.

STANDAFIN 77 is the durable, non-irritating finish that keeps white white on all synthetics without marking off. It imparts a pleasing, durable anti-static finish if you are looking for one with excellent drape and non-slip properties.

STANDAFIN 77 is a finish easily applied on conventional finishing equipment and does not require any curing if you are looking for one compatible with weighters, dullers, etc.

STANDARD CHEMICAL PRODUCTS, INC.

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Manfacturer of Pyrotex • Standapol* • Stanteosine • Retardine* • Standafin • Stantex* *Reg. U. S. Pat. Off.

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THIS FELLOW IS TRAINED IN YOUR BUSINESS. His main duty is to travel the country — and world — penetrating the plants, laboratories and management councils . . . reporting back to you every significant innovation in technology, selling tactics, management strategy. He functions as your all-seeing, all-hearing, all-reporting business communications system.

THE MAN WE MEAN IS A COMPOSITE of the editorial staff of this magazine. For, obviously, no one individual could ever accomplish such a vast business news job. It's the result of many qualified men of diversified and specialized talents.

AND, THERE'S ANOTHER SIDE TO THIS "COMPOSITE MAN," another complete news service which complements the editorial section of this magazine — the advertising pages. It's been said that in a business publication the editorial pages tell "how they do it" — "they" being all the industry's front line of innovators and improvers — and the advertising pages tell "with what." Each issue unfolds an industrial exposition before you — giving a ready panorama of up-to-date tools, materials, equipment.

SUCH A "MAN" IS ON YOUR PAYROLL. Be sure to "listen" regularly and carefully to the practical business information he gathers.

McGRAW-HILL PUBLICATIONS

PIECE DYEING

CONTINUED FROM PAGE 101

After boiling for an hour, a sample is taken to check shade. Adjustment may be made by an addition of acetic acid or dye, or the lot may be allowed to run another 30 mins. In top-chrome dyeing, a base shade is aimed for that will change to a good match when the sodium dichromate is added. Once the base shade is obtained, sodium dichromate in varying amounts is added and the lot kept at the boil for 1 to 2 hrs. For some shades, the dichromate may equal one-half the amount of dyestuffs; in other cases it can be less. The amount of chrome and the time consumed in chroming vary widely with the fabric and the shade being dyed.

For light to medium shades, pre-metallized dyes, such as the Irgalans, Neolans, and others, give satisfactory results and require less time because the chroming operation is unnecessary. The dyebath is kept at the boil until the shade is matched.

When the dyeing is completed, the fabric is cooled gradually to avoid setting any creases.

Portable Unloader Is Used

A pair of squeeze rolls mounted on a frame carrying an unloading reel is used to remove the dyed goods from the becks. A pan mounted under the nip leads to the ditch in front of each beck and carries away the water squeezed from the fabric. The result is much drier areas through which the trucks must be moved to the extractor and dryer.

The trucks containing the wet dyed goods are pushed to an extractor-dryer range, where a vacuum system removes excess water and a scutcher beats out folds and twists. The dryer is a pin tenter enclosed in a housing and is equipped with automatic heat control. When the goods have been dried, they are ready for packing and shipping to the Worcester plant, where the final finishing operations are performed.

MEDIUM WEIGHT FABRICS

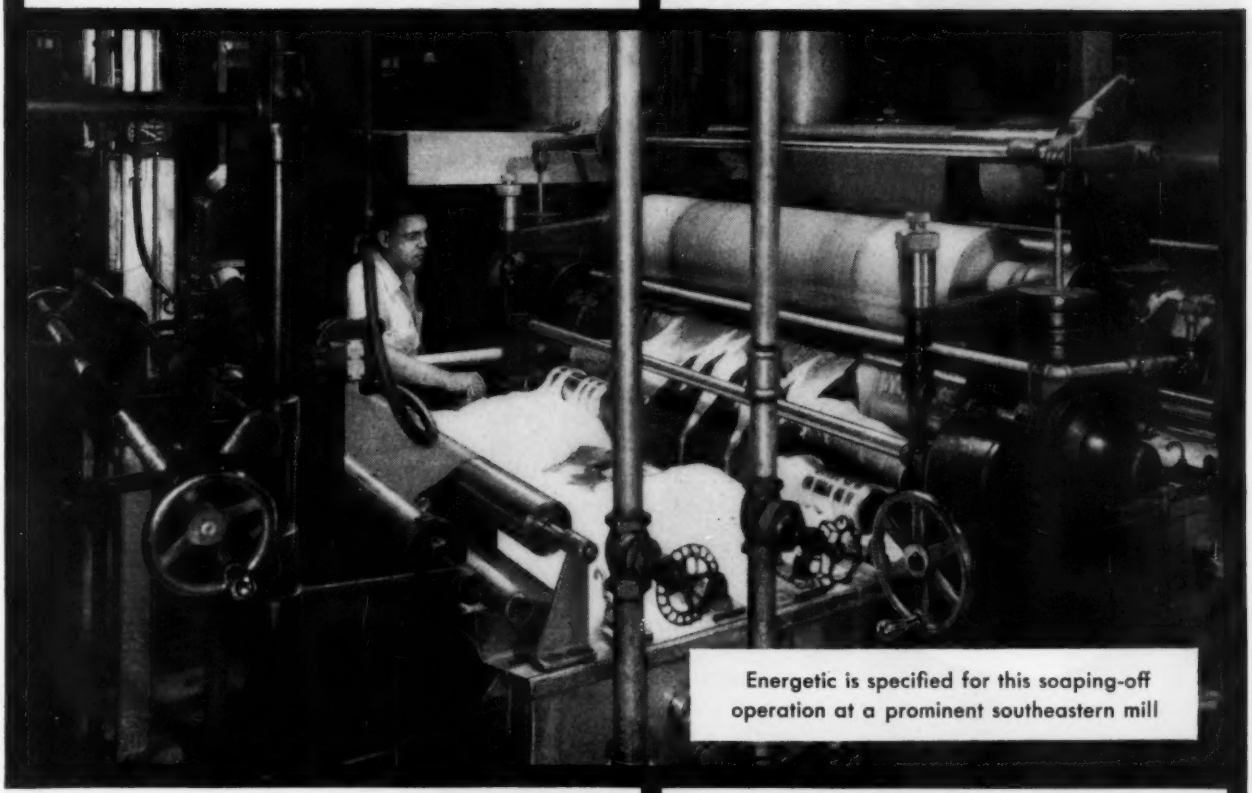
CONTINUED FROM PAGE 109

width of cloth can be placed on the correct loom width with no lost weaving space. Standard speeds and greater cloth production result.

Looms are kept in good mechanical condition to weave all the fabrics the mill makes. New looms are bought when they are needed to do a particular job. Looms are selected to make a specific fabric. For ex-

Armour Energetic® pays off where you soap-off . . .

with sharper, clearer prints!



Energetic is specified for this soaping-off operation at a prominent southeastern mill

Soap-off with powerful Energetic and watch the prints roll out! They'll be extra sharp and clear with clean, bright grounds — just the kind buyers want. Use Energetic for maximum detergency and economy in bleaching and dyeing processes, too. The manager of one the nation's largest mills reports that Energetic is the *only* synthetic which could solve his crocking problem on naphthol-dyed yarn.

A powerful, concentrated nonionic synthetic detergent, Energetic is supplied *90% active*—it takes only one pound to do the work of 3 full pounds of anionics. This adds up to a savings per job of about 21¢ with every pound of Energetic you use. Add builders to cut costs even more.

Send the coupon for test samples of Energetic. Or, for quick delivery on a 5-gallon trial drum, place an order in the coupon at right. And send for booklets on Energetic and its two companion products—Energetic S and Energetic W-100. All three save time, money and material!

Energetic—Versatile, economical and so efficient you need use only ⅓ as much as anionics for maximum detergency.

Energetic S—Designed for use with solvents—gives outstanding results in boiling off synthetic fibers, hosiery finishing and desizing cotton.

Energetic W-100—A new instant-wetting agent which speeds up wet processing all through the mill.

FREE SAMPLE AND TRIAL ORDER BLANK

Armour Industrial Soap Department
Armour and Company, 1355 W. 31st St., Chicago 9, Illinois

Please send me:

☐ FREE Sample of ENERGETIC ☐ S ☐ W-100

.....5-gallon drums of ENERGETIC, $13.86 each

☐ Free Booklet, ENERGETIC and ENERGETIC S

☐ Free Booklet, ENERGETIC W-100

☐ Bill me ☐ Check enclosed ☐ Money Order

Your money back if not completely satisfied. For refund, ship unused portion.

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City.....*Zone*.....*State*.....

T8

ARMOUR *Soap Division*
INDUSTRIAL SOAP DEPARTMENT

ample, X-2 looms are in three widths —40, 48, and 60 ins.; XL looms are 82, 90, 100, and 120 ins. wide.

A group of X-model looms was recently widened from 40 ins. to 48 ins.

Shuttles Are Checked

Shuttle eyes, fur, and bristles are given a lot of attention so that the filling will be tensioned properly for defect-free cloth and the best weaving conditions. Two types of shuttle eyes are being run on spun-rayon yarns: Southern No. 108 and Draper No. 370. These two eyes work well and are giving the best results of all eyes tested. They are being added to the shuttles of all looms weaving cotton fabrics.

The bobbins on all looms are 8¾ ins. long and have brass tips.

In general, spun-rayon filling yarns require more care at the loom than cotton yarns. Cotton filling is placed on the looms in filling boxes; spun-rayon filling is placed on pinboards.

Shuttles are furred with a narrow strip at the top and one at the bottom on the back of the shuttle. There's one strip of fur at the front end of the front wall of the shuttle and also a bristle at the front. This setup is used on 21s spun-rayon filling.

Standard shuttle-lining procedures are set up for each style of cloth, and all shuttles are furred and bristled by a pattern.

Spun-rayon selvage yarns are protected from breakage caused by filling drag by a crowhop at each selvage. The crowhop relieves the strain on the outside selvage ends.

Tight selvages on spun rayons are eliminated by a 2¼-in. strip of 150-grit emery cloth glued on the take-up roll at each selvage. The emery cloth makes one complete round of the roll; and after it is glued on, the loom stands for 1 hr. before it is restarted.

LOOM-STOP ANALYSIS

CONTINUED FROM PAGE 97

or you might have to be satisfied with a lower efficiency, with the pick rate corrected accordingly.

The loom-stoppage report also shows if a certain loom is particularly high for warp, filling, or mechanical stops. For this reason, the report is passed on to the overseer, who checks all the totals for each loom. If anything looks wrong, he can go out and check the particular loom. In this way, he is able to take more corrective action in 10 mins. than he could ordinarily do in an hour. After he checks the report, he returns it to the quality-control department.

Solving the knotty problem of satins

If any fabric proves the case for Continuous Process Rayon—it's satin.

Because this is a fabric with a notorious record for "seconds" due to knots, smart millmen give it the "critical" fabric treatment. They specify Continuous Process Rayon—the yarn with an unequalled record for running without knots, for dyeing without streaks.

The result? They wind up with their highest percentage of first quality satins—ever.

There just couldn't be a simpler solution to one of the biggest headaches millmen face. For that matter, why make a headache out of any fabric? Specify Continuous Process Rayon and be sure.

I·R·C

INDUSTRIAL RAYON CORPORATION
CLEVELAND, OHIO

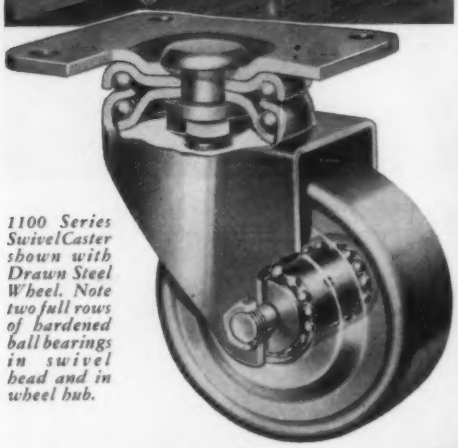
Producers of Continuous Process Rayon Yarns, Tyron® Cord for Tires and The New Nylon Staple Fiber. Sales Offices: 500 Fifth Avenue, New York 36, N. Y. 627 Guilford Bldg., Greensboro, N. C.

 For more information, write direct or use Reader-Service post card.

Faultless CASTER MATERIALS HANDLING FACTS

INCREASING TEXTILE PRODUCTION AND DECREASING COSTS AT RUSSELL MANUFACTURING CO., ALEXANDER CITY, ALA.

Advanced engineering methods of servicing over 64,000 spindles at the mills of Russell Mfg. Company have helped them to be recognized as one of the South's most enterprising textile mills. The continuous productive operation of textile machinery depends to a large extent upon keeping the equipment supplied with work materials. Keeping work material on hand and feeding it into the spinning machinery speedily is accomplished at Russell Mills with a combination of integrated trucks. And to assure these trucks a trouble-free, continuous cycle through every phase of mill operation, the Russell executives selected Faultless 504-4TG rigid plate and 1104-4TG Double Ball Bearing Swivel Casters with drawn steel wheels.



1100 Series SwivelCaster shown with Drawn Steel Wheel. Note two full rows of hardened ball bearings in swivel head and in wheel hub.

500 Series with Plaskite Wheel and Thread Guard to keep lint out of bearings, string from winding around axle.

Faultless castered equipment can lead the way to reduced costs and increased production in *your own plant.* Casters for light, medium, heavy and special duties are included in the extensive Faultless line. Faultless wheels for every type floor and load, as well as for special temperature and chemical conditions, are available.

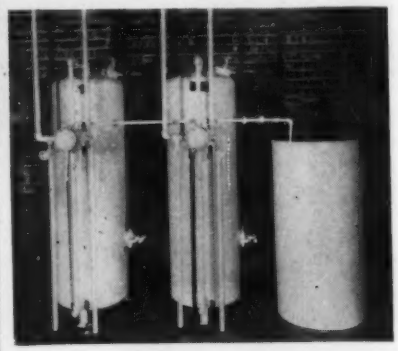
Each month the solution to a real materials handling problem is fully presented in a free, handy size folder "Faultless Facts." Ask your local Faultless Distributor for copies or write to us, no obligation.

FAULTLESS CASTER CORPORATION
EVANSVILLE 7, IND.

FAULTLESS SOLVES THE TOUGH JOBS

EQUIPMENT & SUPPLY NEWS

CONTINUED FROM PAGE 132



Zeolite Water Softeners

Industrial Filter & Pump Mfg. Co., 5900 Ogden Ave., Chicago 50, Ill., announces several new model zeolite water softeners. They are made in 13 standard sizes with flow rates from 6.5 to 40 gals. per min.

These zeolite water softeners can be supplied with either automatic or semiautomatic controls. In automatic operation, the steps of backwashing, brining, rinsing, and return to service are carried out automatically without attention. With the semiautomatic operation, initiation of the regeneration cycle is controlled by push button. (T-17)

Lighted Push Button

An illuminated push-button switch featuring an indicating light as an integral part of the button is announced by Micro Switch, Div. of Minneapolis-Honeywell Regulator Co., Freeport, Ill.

The small, compact switch is designed to be used in electronic and other a.c. or d.c. applications using low voltages. It is easy to wire and to mount on panels in groups on 1-in.

for pure finish...

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BRIGHTER SHADES AND WHITES...
SMOOTHER HAND

KEESTAR PRODUCTS

improved finishing starches

for backfill...

VICTOR 10-55

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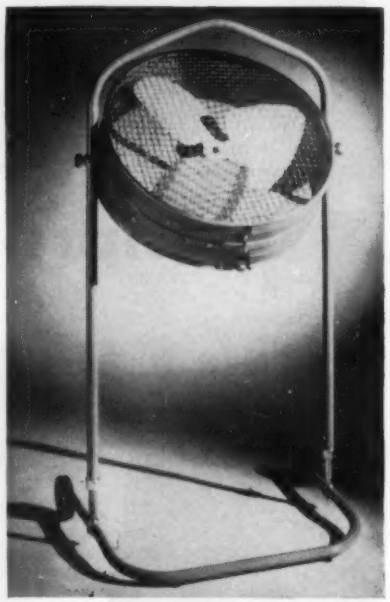
centers. The over-all length of the switch is 3⅛ ins.

The switch has a socket for a single-contact bayonet lamp. Incandescent bulbs with 6- to 28-v. d.c. circuits are used. Neon bulbs are used with a resistor on 115-v. circuits. Removable translucent push buttons are available in red or frosted-white for incandescent bulbs. Clear plastic push buttons are used with neon bulbs.

Outstanding features are: (1) ease of operation, (2) high pretravel (movement of button before contacts snap over), (3) smooth appearance, and (4) self-contained easy-to-see pilot light. **(T-18)**



Portable Fan

A portable fan, Roll-About, made by Precision Equipment Co., 3714 N. Milwaukee Ave., Chicago 41, Ill., has several features that make it versatile.

When the fan is placed anywhere in a room, it is an effective air circulator. When it's rolled in front of an open window, it is an efficient exhaust fan.

The deep-pitched 20-in. propeller moves free air at 3,950 cu. ft. per min. The fan has two speeds. It costs $39.95. **(T-19)**

Clutch Motor for Sewing

A clutch motor that stops a sewing-machine needle automatically in or out of the work is made by American Safety Table Co., 224 Fifth Ave., New York, N. Y. The device frees

Material: Activator solution—water with 5% ferro-sulphate. **Problem:** Short service life of turbine pumps; sometimes only two weeks. **Solution:** First Moyno ran 6 months without a breakdown. Using relief valves, pressure is kept at constant 120 p.s.i. Now using 7 Moynos because of this exceptional service.	**Material:** Anti-scale boiler treatment. (Alcohols, oils, anti-foam agents, sludge conditioners.) **Problem:** Frequent pump breakdowns caused by back pressure of spray nozzles; and abrasion. **Solution:** Moyno pumps cut pumping time from 20 minutes to 3, reduced down-time, increased production 200%!	**Material:** Caustic solution—for use in mercerizing machines. **Problem:** Rotary pumps wore quickly; lost capacity, and did not have enough suction. **Solution:** Moyno pumps cut maintenance and repairs to minimum—had ample suction for drawing caustic through the cloth.
Material: 40° copperas crystals in 20% sulphuric acid. **Problem:** Low production of diaphragm pump. **Solution:** Moyno pump handles an increased percentage of solids, which in turn increases production.	**Material:** Calcium carbonate slurry. **Problem:** Continuous failures of centrifugal pumps. **Solution:** Moyno pump still giving perfect service after 1½ years. Service is practically continuous—with pump in operation 24 hours per day.	**Material:** Size—containing china clay and latex. **Problem:** Centrifugals unable to handle viscosity—causing frequent trouble. **Solution:** Moyno pump has been on duty for a year. Pump trouble completely eliminated; no repairs required.

Six Chemicals-Handling Problems... Solved by the MOYNO® PUMP!

Features of the MOYNO that may solve YOUR pumping problem

Positive Displacement—Moynos are available to pull up to 29" vacuum while discharging under pressure. Big Moynos deliver up to 250 g.p.m. at pressures to 600 p.s.i.

Gentle—No churning; won't break up semi-solids; won't aerate liquids.

Reversible—The Moyno pumps with equal efficiency in either direction.

Versatile—handles liquids, abrasive slurries, pastes—even potato salad! Rotor and stator are available in stainless steel, other alloys or plastics to meet a wide variety of applications.

Trouble-Free—self priming; won't cavitate or vapor-lock. Just one moving part—no valves to stick, no pistons to gum up. Built for tough service. Easy to maintain.

Looking for a pump with a fast-growing reputation for solving tough pumping problems? Then take a look at the simple, versatile Moyno!

Briefly described above are a few of the many successful case histories proving how Moynos handle jobs where other pumps fail. Why is the Moyno a "problem-solving" pump? For one thing, because it differs completely from conventional pumps . . . rotary, centrifugal or piston. Just one rugged moving part—a rotor turning within a stator—does the job.

The list of chemicals handled by Moynos gets longer every day. If *you* have a pumping problem, such as handling abrasive slurries, mild acids, caustics—watery, viscous or even semi-solid—find out if the Moyno can help you! Use the coupon below for prompt, complete information.

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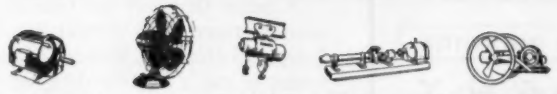

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Pump Division, Springfield 99, Ohio

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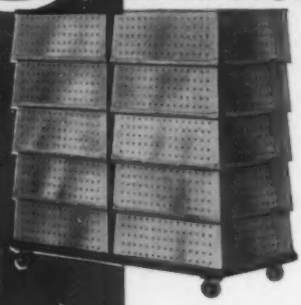

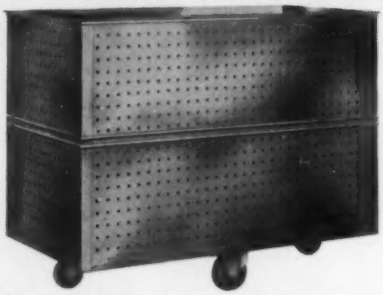

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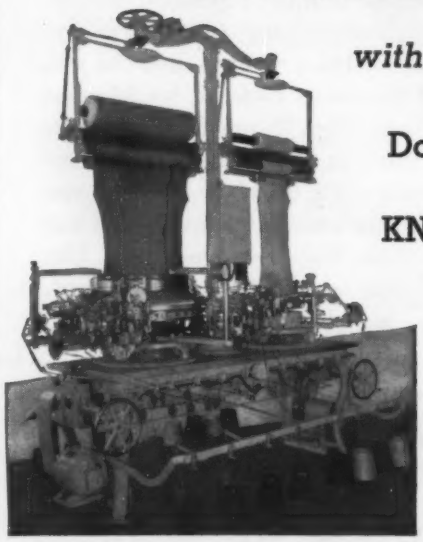
BIG WEEKLY SAVING PER OPERATOR



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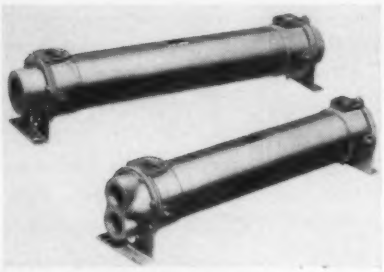
the operator's hands to handle work faster.

The positioner is synchronized electrically with the handwheel and can be set to stop when the needle is up or down. A Micro switch on the knee lifter raises the needle automatically if the positioner is set so that the needle stops down. (T-20)



Stainless Steel Heat Exchangers

Young Radiator Co., Racine, Wis., has added Type SSF stainless-steel heat exchangers to its line. Available in single- and multiple-pass models, they are of fixed-tube construction and can be supplied in a large range of capacities. The exchangers are designed to eliminate expansion strains imposed by radical temperature differences and are baffled to provide maximum contact with minimum pressure drop. Smooth-flow end bonnets provide the least possible impact on tubes and tube sheets at the inlet to the tube handle. (T-21)

Lint-Free Caster

A caster that will not bind is being manufactured by Wright-Batchelder Corp., 10 High St., Boston, Mass. The caster is made in two designs: swivel and rigid.

Both designs are made with either

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soda ash

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Ready for your needs shortly . . .

A high-quality and uniform *soda ash* . . .

Produced by an exclusive new Dow process.

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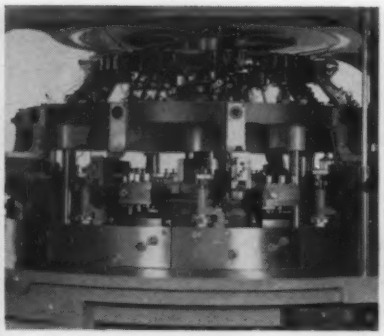

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For maximum output of diversified garments of synthetics, worsteds, zephyr, cashmere yarns etc. • Stitch construction includes interlock, jersey, rib, which may be incorporated with tuck and welt and (on interlock fabric) fancy stitches with stripes, colored checks; blister, grenadine stitches. • Also pleat effects and jersey interlock. • O. G. machines increase production 20% or more even with inexperienced help. All parts easily, quickly accessible. Unit-construction of sub-assemblies—easily removable, replaceable—cuts down-time, speeds set-up. • Jogger switch advances by needle; stationary take-up adjusts for tension while operating; stop-motion brake prevents dropping body or other damage. • Write for catalog. ORDNANCE GAUGE CO. AMBER & HAGERT ST. PHILADELPHIA 25, PA.

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Model 3-DM
Alaska Gray and
Seal Brown finish

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The Durant Doffmeter is a compact, predetermined counter designed to cut off the loom or signal when the preset number of yards is reached. Eliminates cut marks and waste ends by assuring uniform yardage . . . simplifies inventory control.

Present day high costs make the installation of Durant Doffmeters on every loom a practical money saving investment. Plan now . . . write or contact us for detailed information.

ELIMINATE OVERRUNS

Warns operator or stops machine when run is completed. Yes — eliminates annoying underruns, too!

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Easy, accurate way to assure uniformity in lengths of cloth or yarn.

MAXIMUM PRODUCTION

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PRODUCTIMETERS
SINCE 1879 *Count Everything*

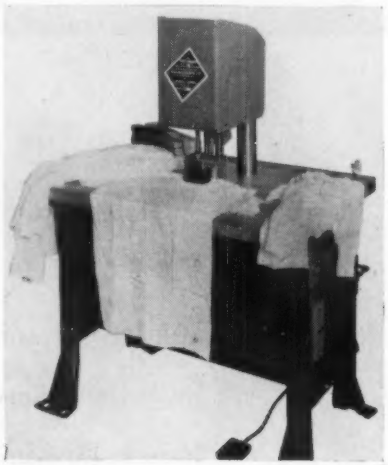
steel, hard-rubber, or neoprene wheels. A housing completely covers the axle and pivot, and it prevents binding from lint and yarn.

Each caster supports loads up to 500 lbs. and, under this load, moves and swivels easily. The caster is permanently lubricated. **(T-22)**

Nylon Harness Hook

Nylon hooks to be used with slide-hook harness frames are being manufactured by Emmons Loom Harness Co., Lawrence, Mass.

The hook consists of a metal core entirely covered with nylon. With this arrangement, there's no contact of metal against metal; therefore, there's considerably less friction and wear. The hook positions itself to the harness heddles promptly and prolongs the life of the slide and heddle rods. It is interchangeable with most hooks now being used. **(T-23)**



High-Speed Labeling Machines

A high-speed labeling machine for the automatic application of Prestomark labels has been developed by Kaumagraph Co., Wilmington, Del. The unit handles labels up to 2½ x

10,000,000 CARDING POINTS
NEED PERFECT GRINDING ROLLS
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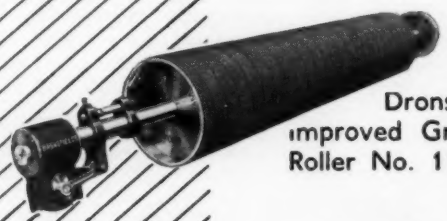
CARD GRINDING WITH ABSOLUTE ACCURACY

DRONSFIELD'S PATENT MOTOR-DRIVEN FLAT SURFACE GRINDING MACHINE No. 241.

Designed for grinding revolving flats—four simultaneously—dismounted from the cards. Absolute precision in setting is the aim.

Dronsfield's Patent - Traverse Wheel Grinder, No. 120.—*if requested can be supplied fitted with ball bearings.*



Dronsfield's improved Grinding Roller No. 112.

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Clinton starches are widely used for warp sizing. They increase strength . . . smooth fibers so abrasion is reduced . . . resulting in smooth running warps. And that's only the beginning. At the finishing operation, Clinton starches provide proper hand and body to your fabrics.

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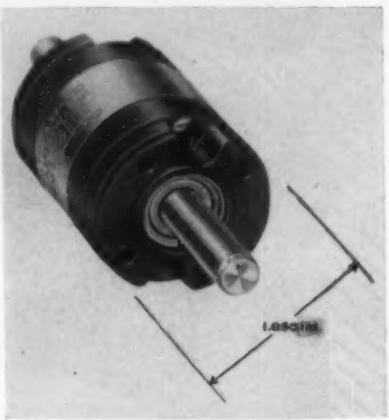
1½ ins. at the maximum operating speed of 1 sec.

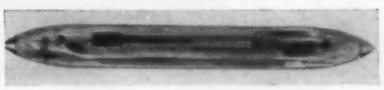
Labels are magazine-loaded; this method allows very fast change-overs in label sizes. The two ends of the labels may be heat-sealed at speeds well over 500 doz. per 8-hr. day on light woven goods. **(T-24)**



Miniature Speed Reducers

Miniature speed reducers for operations where backlash is not desirable are now available from Metron Instrument Co., 432 Lincoln St., Denver 3, Colo. The series 107 speed reducers come in 448 different ratios from 1:1 to 531, 441:1. Upon request, many special ratios not among the 448 standard ratios may also be obtained.

The speed reducers have a nominal ⅛-hp. rating. They have hobbed spur gears hardened to give smooth operation and long life. The antibacklash operation results from two parallel gear trains that are spring-loaded against each other. **(T-25)**



Long-Wearing Shuttle

A newly developed shuttle, Wood-N-Dure. is being manufactured by U S Bobbin & Shuttle Co., Lawrence, Mass., and Greenville, S. C. The manufacturer reports that the new shuttle lasts twice as long as conventional shuttles.

The natural dogwood of the shuttle is given a special treatment that results in an improved close-grained material. It is claimed that shuttles made from this material withstand the stresses, shocks, and blows that formerly caused failures at the side of

for colors *truly fast* – by *your* standards –

INDANTHRENE® VAT DYES

Whatever the use for the fabrics you dye or print—for clothing, upholstery, draperies, floor coverings, awnings, etc.—the unavoidable demand is that they shall be fast-to-light, fast-to-washing. Your customer's business is safeguarded, when you use vat colors... Indanthrene Vat Dyes have been the standard of the industry for more than 50 years.

From a single source, you draw on the widest color range available. Moreover, to be certain of meeting any requirement you establish, these colors are standardized in as many as six different physical forms...

- "WP" brands—dispersible powders for pigment padding and package dyeing
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- "Paste" and "Dble. Paste" brands—dispersed pastes for dyeing

and now— • "Infra Paste" brands—finer milled to afford instant and complete dispersion—speck-free in lighter shades—new, trouble-free ease of working

Consider the strategic location of our warehouses and laboratories to meet your immediate needs. Call upon our Technical Service Department for assistance in any color or color-matching problem. We invite your inquiry.

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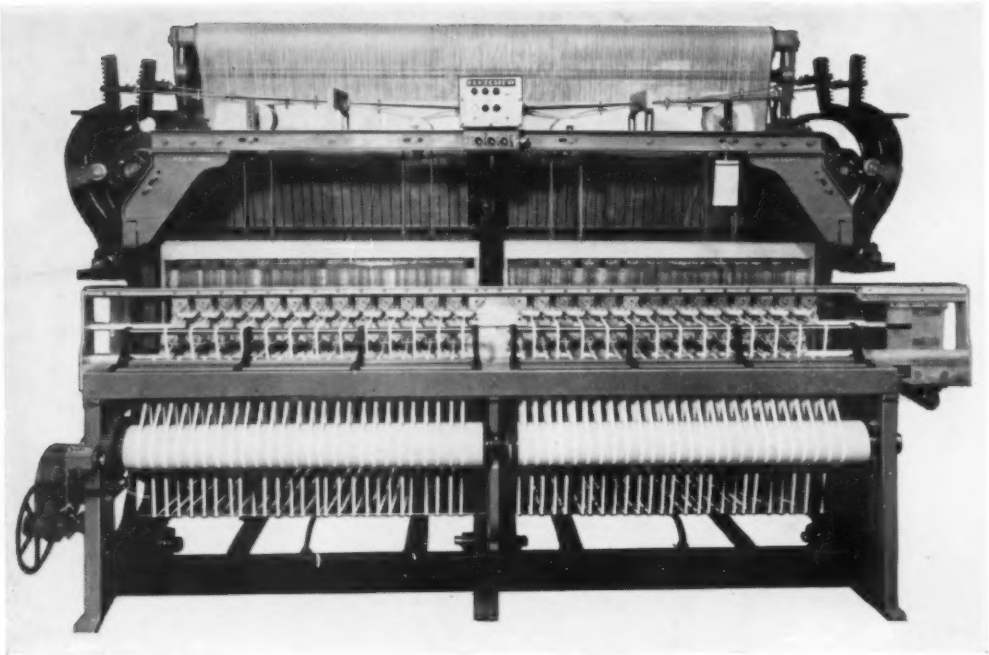
THE LOOM!

for higher speeds and higher efficiencies . . .



. . . from "THE WORLD'S LARGEST SPECIALISTS IN NARROW FABRIC LOOMS"

These Semi-Automatic Looms are Custom Built. They come in different lengths with any style of batten, several types of letoff and one or two cam motions — heavy duty for weaving heavier fabrics and small index for over nine harness construction.

Call or write for a Fletcher Sales Engineer to tell you how these remarkable looms will Save Money — *Make* Money — weaving Ribbon, Tape, Light Webs and numerous other narrow fabrics.

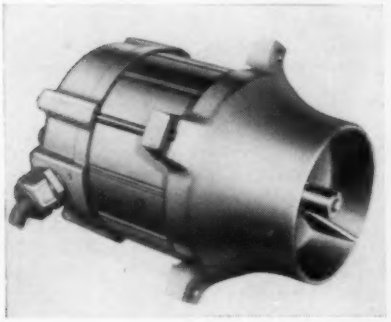
FLETCHER WORKS

223 GLENWOOD AVE. PHILADELPHIA 40, PA. ESTABLISHED-1850

the eye, at the front wall, and around the thread-cutter and feeler slots.

The hardened wearing surfaces increase the resistance to the wear and abrasion of the loom. And when the shuttle does begin to wear, it wears smoothly and evenly to a highly polished gloss. The harder surface also resists splintering, and therefore sanding to remove the splinters is not necessary.

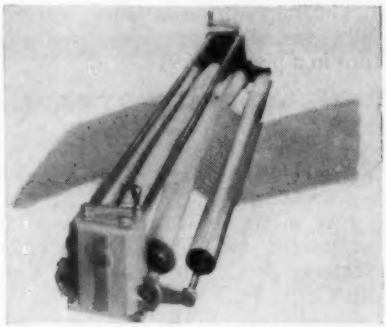
In addition, the shuttle is not affected by atmospheric changes. The processing increases the weight of an average shuttle by 2 to 4 oz. **(T-26)**



Motor for Lint Collector

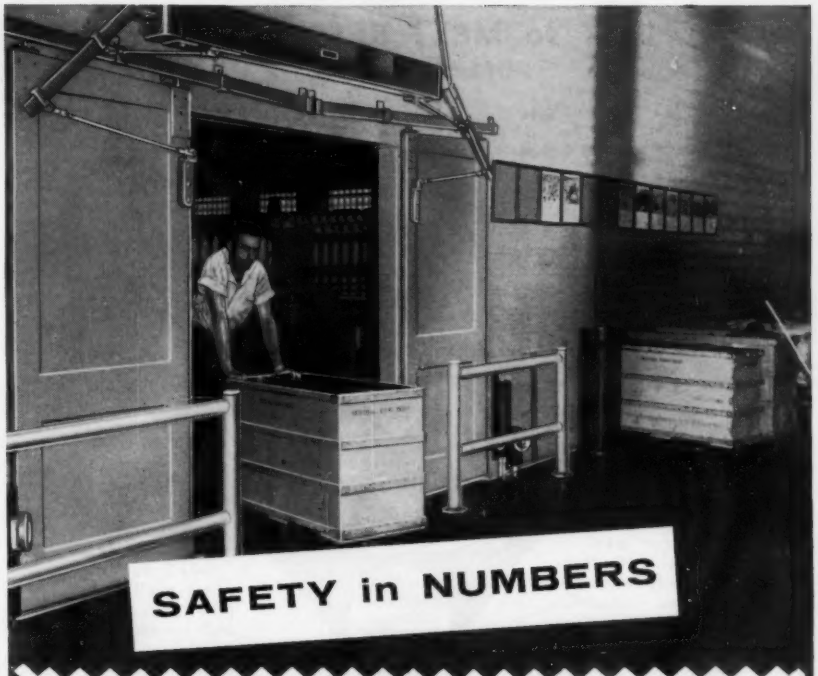
A compact 3,500-rpm. textile motor, Type HAH, has been developed by Allis-Chalmers Mfg. Co., Milwaukee, Wis., to be used with the new Pneumafil Economizer Collector system.

The motor is built in ratings of 1½ and 2 hp.; 220, 440, and 550 v.; 60 cycles. The over-all length of the 1½-hp. motor is 9½ ins., including the shaft extension and the lugs. The 2-hp. unit has a 10-in. over-all length. Both motors have an over-all diameter of 7¾ ins., including the mounting lugs. The nominal outside diameter is 5¾ ins. **(T-27)**



Adjustable Expander

A multibar adjustable expander suitable for expanding delicate laces, nets, meshes, and other sheer fabrics



34 STANLEY® MAGIC DOOR CONTROLS

PREVENT PRODUCT DAMAGE At Avondale Mills By EQUALIZING DRAFTS and PRESSURES

Drafts or pressure conditions created by doors that remain open too long cause product damage in textile mills by upsetting specified temperature and humidity requirements. But not at the various Avondale mills where 34 Stanley Magic Door Controls are in use to open doors on approach, keep them open the minimum of time required to let traffic through, then close them automatically. Above, a Stanley Magic Eye* Control is shown in operation at the Avondale Mills' plant at Sylacauga, Alabama.

To control temperature and humidity and to . . .

- **Save time by speeding up traffic flow**
- **Eliminate maintenance costs due to damaged doors**
- **Improve working conditions**

. . . ***your*** mill, too, will benefit through the installation of Stanley Magic Door Controls to operate swinging, sliding or folding doors. Check the yellow pages of your telephone directory for the name of the Stanley Magic Door Representative nearest you. Or mail coupon for free literature and to arrange a visit from the Stanley Representative.

MAGIC EYE

(Photo-electric). Actuates door when beam is broken.

PUSH PLATES

Wall-mounted push or kick plates. Adaptable to many industrial locations.

PULL CORD

Door is operated only with pull of overhead hand cord.

*U.S. PAT. NO. 2173455

STANLEY® Magic Door CONTROLS

REPRESENTATIVES IN PRINCIPAL CITIES

THE STANLEY WORKS, Magic Door Division
018-M Lake Street, New Britain, Conn.

☐ *Please send complete information on Stanley Magic Door Controls*

☐ *Have Representative call.*

Company Name_____

My Name_____ Position_____

Company Address_____

City_____ Zone_____ State_____

STANLEY TOOLS • STANLEY HARDWARE • STANLEY ELECTRIC TOOLS • STANLEY STEEL STRAPPING • STANLEY STEEL

BUILT to MEET RESPONSIBILITY

PUMPS *"by Aurora"*

Capacities to 4,600 G.P.M.
Heads to 300 Ft.
Type OJ Horizontally Split Case, Double Suction, Single Stage Centrifugal Pump
WRITE for BULLETIN 105-BM
The Type OD-OJ-OMB PUMPS —for general water supply for municipalities, industries, office buildings, institutions—also —for handling liquids, chemical solutions, oils, etc. in industry.
APCO TURBINE-TYPE PUMPS —ideal for "1001" duties where small capacities and high heads predominate. Get acquainted.
AURORA Always PUMPS
Write for CONDENSED CATALOG "M"

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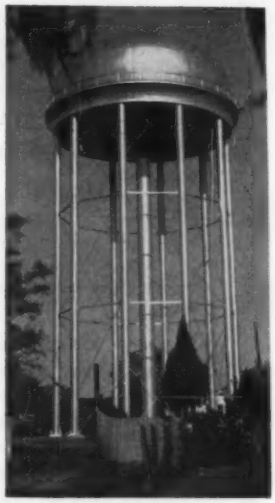
AURORA® PUMP DIVISION
THE NEW YORK AIR BRAKE COMPANY
31 LOUCKS STREET • AURORA • ILLINOIS

TANKS AND VESSELS FOR THE TEXTILE INDUSTRY



● COLE builds elevated tanks and vessels to your specifications — dye-vats, kiers, starch-kettles, acid tanks, jib-boxes, or other processing vessels for the finishing and dyeing industry . . . in stainless steel, nickel-clad steel, or of standard steel lined with Monel metal.

Our long experience in the design and fabrication of vessels for the textile industry may be of help to you. Write for latest COLE catalog—*Tank Talk.*

Established 1854

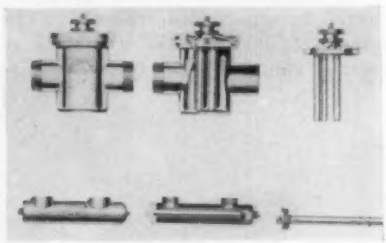
R. D. COLE

- TANKS
- TOWERS
- CYLINDERS
- VESSELS
- STANDPIPES

Manufacturing Co., Newnan, Ga.

of cotton or synthetic fibers is available from Mount Hope Machinery Co., Taunton, Mass.

A standard unit consists of three Mount Hope free-wheeling expanders mounted in a heavy bracket carrying a 4-in. guide roll. Other units carrying five, seven, or nine expander rolls can be supplied. **(T-28)**



Magnetic Pipeline Traps

Magnetic pipeline traps for the removal of tramp iron from practically all liquid materials are being made by Eriez Mfg. Co., 2 W. 46th St., New York, N. Y. For example, the traps are used in lines handling water, oil, brine, chemicals, and cooling agents.

Called Ferrotraps, the units are manufactured in two models to fit ½- to 4-in. pipelines. They're made in a wide range of materials, finishes, and strengths specially adapted to the operating conditions.

The traps are compact, self-contained, and versatile in their ease of installation. The only maintenance necessary is the periodic removal of iron accumulations. Iron accumulations do not restrict the flow of liquid through the trap, since the iron tends to work around the downstream side of the trap tubes. The magnetic tubes are mounted as part of the cover and therefore are removed for cleaning by simply loosening the closure and withdrawing the entire assembly.

The trap can be installed horizontally, vertically, or at a right-angle turn in a pipe. **(T-29)**

Yarn-Uniformity Tester

Five mass Vibrometers have been constructed for E. I. du Pont de Nemours & Co., Inc., by The Kuljian Corp., Philadelphia, Pa. The vibrometers are to be used for the precise and continuous quality control of various synthetic yarns. The machines automatically check the uniformity of yarn over a range from 10 to 5,700 dens.

In operation, a sample spool of

MONSANTO TEXTILE TALK

DRESS: "EVERGLAZE" COTTON BY NELLY DE GRAB

MONSANTO'S MELAMINE RESINS DON'T WASH OR DRY CLEAN OUT OF FABRICS

When cottons and wools, pure synthetics and blends are treated with Resloom, two things are certain:

1. They will be upgraded in hand and appearance.

2. They will retain their fresh-and-new look through countless washings or dry cleanings.

Monsanto has formulated Resloom HP and M-75 from melamine, the resin that's hardest and most durable of them all. Their resistance to water, alkalies and solvents is remarkable.

Resloom resins do not coat the fabric. Instead, they are deposited inside absorbent fibers. The resins actually modify the characteristics of the fibers.

Though extra hard, Resloom resins do not create a harsh hand when the fabric is properly impregnated. And they are in a class by themselves for surface lustering or glazing.

Treatment with Resloom develops excellent crush resistance, dependable shrinkage control and novel textures. A Monsanto representative will be glad to work with you on technical problems relating to special finishes. Write Monsanto Chemical Company, Plastics Division, Dept. TW8, Springfield 2, Mass.

It pays to finish fabrics with durable

RESLOOM *MELAMINE RESINS*

*RESLOOM: REG. U. S. PAT. OFF.

MONSANTO

Serving industry . . . which serves mankind

the big news is the economy of using Penford Gums!

IN TEXTILE PRINTING

PENFORD GUMS have the viscosity, stability, minimized congealing tendency and ease of removal to be formulated into the right printing pastes for sharp prints with unusually good color. When shortened by suitable adjuncts, PENFORD GUMS 200 and 240 are most effective for printing fabrics.

IN CORD POLISHING AND THREAD GLAZING

The moderate string and non-congealing paste character as well as the elastic filming properties of PENFORD GUMS 200 and 300 make them particularly suitable for the application.

The Technical Sales Service Engineers of Penick and Ford are ready to assist you in solving any textile problems and to help you select the best PENFORD GUM for your *process* and *equipment*. PENICK & FORD, LTD., Incorporated, 420 Lexington Avenue, New York 17, N. Y.; 806 Bona Allen Building, Atlanta, Georgia; Cedar Rapids, Iowa.

Send for helpful new brochure!

Penford Gums

Designed by the TEXTILE Industry... Built by Colson

Model 3-408-16 Rigid fork caster with thread guards
Model 3-427-16 Swivel fork caster with thread guards
Model 4-507-65 Rubber caster—swivel fork

By working closely with people in the Textile Industry, The COLSON Corporation has developed a series of wheels, casters and trucks which will fit your *exact* needs. COLSON wheels and casters roll easily over all types of floors. They swivel freely and are rust resistant. Many models have thread guards. Write us *now* or consult the yellow pages of your 'phone book for the name of the COLSON office near you.

Write Today for Free COLSON Materials Handling Catalog.

THE Colson® CORPORATION

Elyria, Ohio

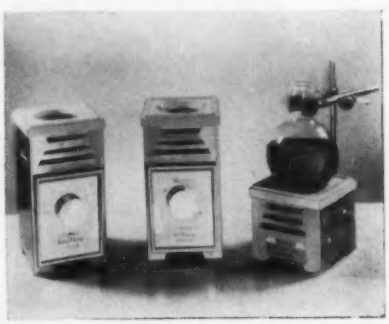
Casters • Hand Trucks • Lift Jack Systems
Hydraulic, Electric and Mechanical Power Lifts and Transports

yarn is passed continuously through the machine at a constant tension and speed. A check of the uniformity of the yarn is automatically recorded on a special high-speed strip-chart recorder. (T-30)

Cellophane Package

Red Jacket socks are put up in a cellophane tray overwrap produced by American Viscose Corp., 1617 Pennsylvania Blvd., Philadelphia 3, Pa. The overwrap provides top and bottom visibility and gives a clean sanitary appearance.

The packages are wrapped at a speed of about 32 per minute on a Hayssen machine. (T-31)



Laboratory Heaters

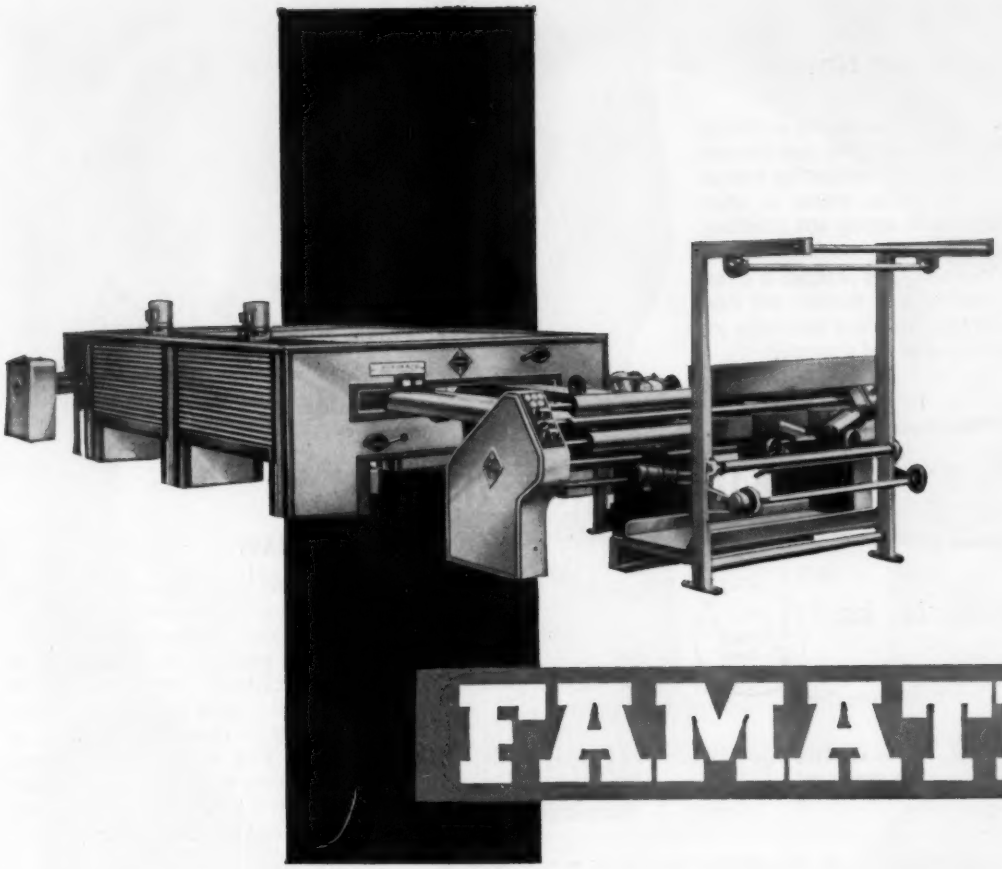
Three small laboratory heaters that operate on 115 v. are being manufactured by Fisher Scientific Co., 717 Forbes St., Pittsburgh 19, Pa. The heaters are said to give greater control in boiling up.

The heaters are cased in stainless steel for chemical and heat protection. One model weighs only 2 lbs. At maxium output, 500 ccs. of water can be brought from a cold start to a boil in less than 10 mins.

A flip-over top fits either large or small flasks. The three units cost approximately $55, $50, and $17. (T-32)

CONTINUED ON PAGE 196

*RESLOOM: REG. U. S. PAT. OFF.



FAMATEX

STENTERS

FAMATEX

are Universal Machines with unequalled efficiency in processing all kinds of woven, knitted or warp knitted goods of any desired width, made of natural or man-made (synthetic) fibres.

They are manufactured in our works complete with chain-rails, fabric conveyance chain, ventilation, insulated housing and on request with setting unit. We supply the chain alternatively with pins, clips or pin-clip combination.

Famatex — the Stenters

# of World Renown

Sole Agent for USA and Canada:
Reiner-Famatex, Inc.
550-64 Gregory Avenue, Weehawken, N. J.
Telephone UNion 7-0502

FAMATEX GMBH FABRIK FÜR TEXTIL-AUSRÜSTUNGSMASCHINEN **STUTTGART**
KORNWESTHEIM

for yarn or fabric—

improved superior finish

Here is new softness, fuller hand for your yarns or fabrics. It is the reason why more and more dyers and finishers specify Lauramine #20. Performance is outstanding with all colors. Lauramine #20 does not yellow whites or affect shades. It is also highly resistant to ageing and scorching. For your convenience, Lauramine #20, modified anionic softener, now comes in two forms — paste or liquid. It is fast dissolving, easy to use, compatible with starches and most finishing compounds. Uniform application and lubrication are assured. Write us for more information and a sample.

NEW

LAURAMINE #20

laurel soap manufacturing co., inc.

Laurel Brand

Wm. H. Bertolet's Sons • Established 1909
2608 East Tioga Street, Philadelphia 34, Pa.
WAREHOUSES • Paterson, N. J. Charlotte, N. C. Chattanooga, Tenn.

Other quality Laurel Products for better processing:
Coning oils for synthetic yarns — trough emulsions for cotton and woolen yarns — soaps and detergent compounds for scouring and soaping off after dyeing — dyeing assistants — special finishing compounds.

CINDET GETS IT CLEAN!

100% ACTIVE LIQUID SYNTHETIC DETERGENT

Equally effective in hard or soft water . . . LOOSENS and LIFTS dirt—holds it in suspension in rich, creamy suds.

CINDET is ideal for stripping old wax from floors before rewaxing. Nothing else removes rubber marks and smudges so fast, so completely! Yet CINDET is safe for all surfaces. It is approved for rubber flooring by the Rubber Flooring Division of the Rubber Manufacturers' Association, Inc.

CINDET has hundreds of general cleaning uses; it's SAFE and THOROUGH everywhere!

Write for literature; have your DOLGE Service Man demonstrate CINDET.

FOR FREE SANITARY SURVEY OF YOUR PREMISES SEE YOUR DOLGE SERVICE MAN

specialties
DOLGE
WESTPORT, CONNECTICUT

MONEY DOESN'T GROW ON TREES, SPEND IT WISELY!

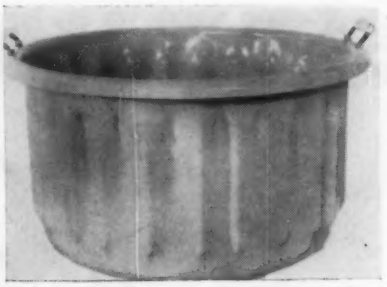
Spend wisely to make your mill operation efficient. A wise move would be to have winders made to fit your own exact specifications and Lazenby winders are thus made. It pays to get Lazenby winders. Send us a small supply of your yarn and we'll wind and return with Test Wind Report and Catalog.

F. A. LAZENBY CO.
3106 ELM AVE.
Baltimore 11, Maryland

Continued From Page 194

Hydromixer

A machine that dissolves dyes and chemicals quickly has been announced by Pako Corp., Minneapolis, Minn. The unit is portable and consists of a stainless-steel tank and pump. A jet tube provides rapid mixing and solution of dyes or chemicals; no heat is necessary. The solutions are transferred to becks or other machines by the pump in 1 to 2½ mins., depending on the size of the batch. (T-33)



Plastic Color Tub

A high-impact one-piece seamless plastic color tub has been developed by Anawan Plastics & Machine Co., Fall River, Mass. Designed for use in bleaching, dyeing, and printing, the tubs are smooth, light, and impervious to most acids and alkalis. They are supplied in 10- and 25-gal. capacities. (T-34)

Film Sheeter, Bag Maker

A device called the LectrOmatic plastic film sheeter and bag maker has been introduced by LectrOmatic Devices, Chicago, Ill. The unit automatically measures, cuts, and dispenses

CONTINUED ON PAGE 206

Here is an

immediate opportunity

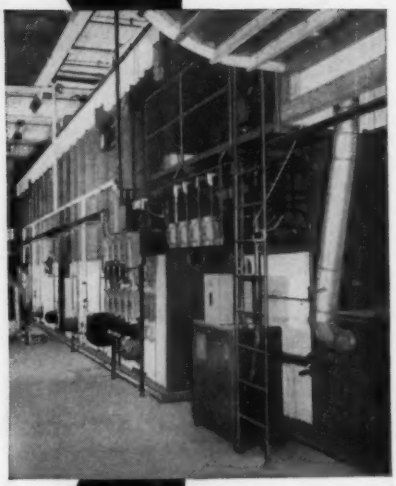
for

PROFIT

The Proctor & Schwartz

loop ager for printed fabrics

.. PAYS FOR ITSELF IN ONE YEAR
.. REPLACES 5 ROLLER AGERS
.. REQUIRES ONLY 2 MEN PER SHIFT
.. VIRTUALLY ELIMINATES AGEING "SECONDS"



The Proctor & Schwartz Loop Ager has been proven to pay for itself quickly—often yielding profits equal to original investment in a single year. Completely outmoding existing units, this advanced system for ageing vat dyed print goods does the work of five roller agers, cuts floor space needed in half, and eliminates ageing re-runs. One installation saved $45,000 per year in direct labor alone, with savings in dyestuffs, glycerine and steam exceeding this amount. Standard sizes range from 2 to 7 units—supplying outputs from 27,000 to 95,000 yards per shift. Proctor engineers will be glad to make recommendations for the exact equipment to meet your particular production requirements. Write for information.

PROCTOR & SCHWARTZ EQUIPMENT FOR THE TEXTILE FIELD

- Automatic Blending Systems
- Weighing Feeds
- Pickers
- Shredders
- Bale Breakers
- Synthetic Cards
- Garnetts
- Dryers For Fibrous Material
- Yarn Dryers
- Hot Air Slasher Dryers
- Cloth Carbonizers
- Roller Dryers And Curers
- Loop Agers For Print Goods
- Tenter Housings
- Open-Width Bleach Systems For Woven Fabrics
- Multipass Airlay Dryers
- Nylon Setting Equipment
- Con-O-Matic Washers
- Continuous Bleach Systems For Producing Tubular Knits
- Equipment For *"REPMANIZED"® Shrunk-To-Fit Fabrics
- Carpet Dryers

*Reg. U.S. Pat. Off.

Proctor

PROCTOR & SCHWARTZ, INC.

Manufacturers of Textile Machinery and Industrial Drying Equipment • Philadelphia 20, Pa.

What mill people say

ABOUT

ALLEN

ALLEN HEAD

SOCKET SCREWS

"Use lots of them. Why?—because they're safer on moving shafts. The mechanics are used to carrying the hex key and find it no trouble to do so.

Manager,
Griffin, Georgia,
Mill

ALLEN
MANUFACTURING COMPANY
Hartford 2, Connecticut, U. S. A.

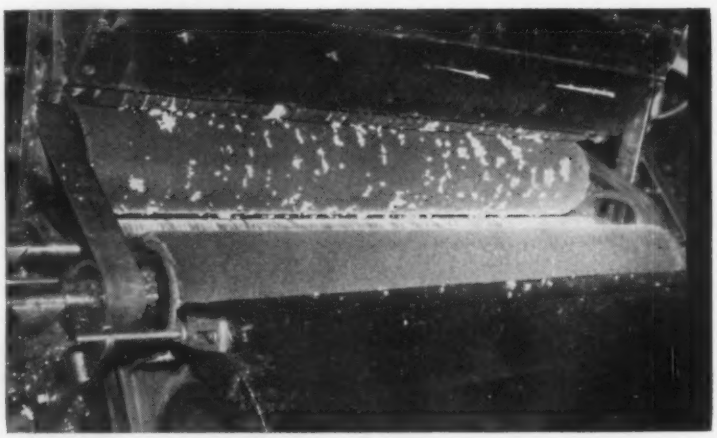
Remove Bottom Worker To THROW OUT RAGS

To run a blend of clippings of waste cloth on old Lombard woolen cards, S. F. Scott & Sons, Inc., Elmdale Mill, Uxbridge, Mass., removed the bottom worker on the breaker cylinder to throw out bits of rag and clothed breaker cylinders with kneeless clothing. On nubby yarn, the nubs are put in at the second breaker.

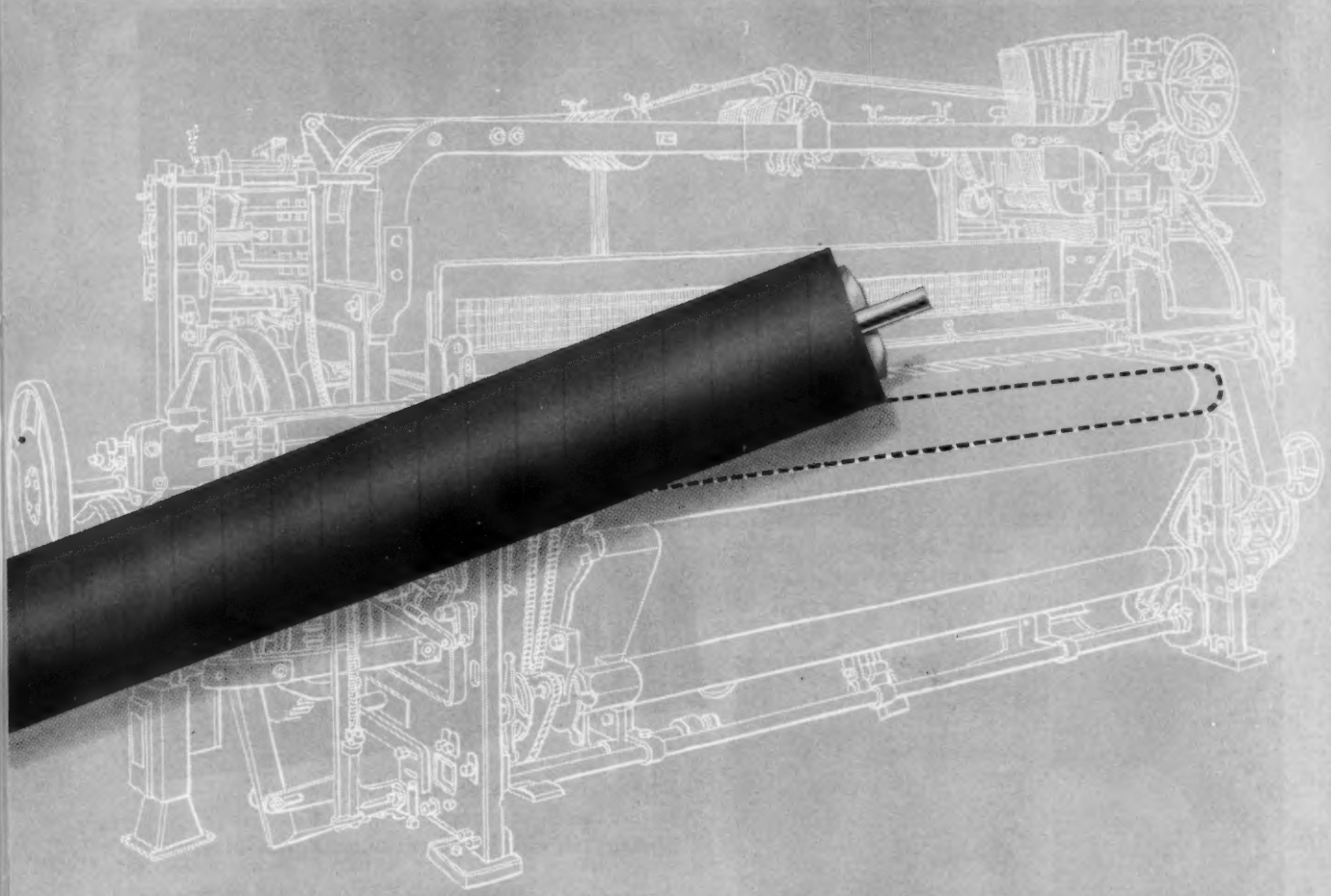
Here is what the operation looks like—

By **THOMAS B. WINSTON,** Assistant Editor, TEXTILE WORLD

BOTTOM WORKER on breaker was removed and the card set to throw out bits of rag still in the stock. The breaker cylinder is covered with a medium-coarse kneeless clothing, and a tight 26-gauge setting is used throughout. The hand-stripping cycle is once a day.



RAYON NUBS are put in on the back side of the second breaker cylinder. The feed roll is driven by a simple belt arrangement from the fancy shaft. The three-cylinder set includes a 60x48-in. breaker, 48x48-in. second breaker, and 44x48-in. finisher. The intermediate feed comes after the second breaker, and 48 ends of 1¼-run roving are removed on a 12-in. ring doffer. No Peralta rolls are used. Production is 58 lbs. per hr.



this high friction take-up roll covering

won't mark finest fabrics

Here's a take-up roll covering that delivers up to twice the holding power you'd expect from a smooth rubber material. It's Armstrong NO-732.

NO-732 grips fabrics firmly and maintains uniform take-up tension. Yet it is so smooth you can weave the sheerest voiles or chiffons without danger of creating take-up roll marks.

This unique combination of smoothness and holding power is possible only with the special synthetic rubber compound developed by Armstrong for NO-732 Covering. In addition to top performance, you'll get long wear from NO-732. For extra strength and good adhesion to the roll, it's backed with tough fabric.

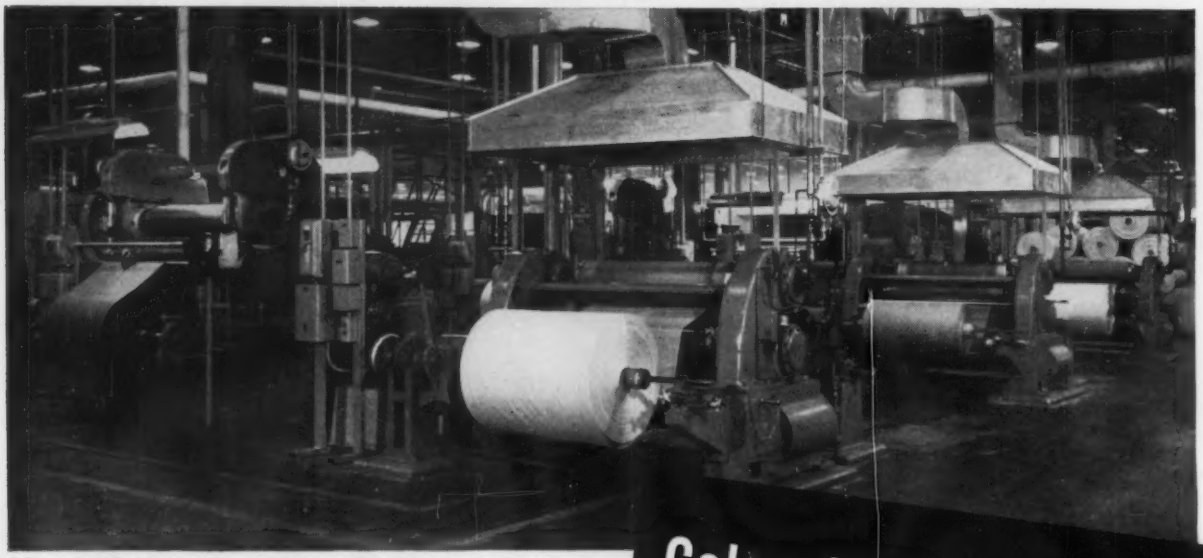
You can test Armstrong NO-732 Covering right in your office. Rub a sample across your shirt or the cloth you weave, and notice how little pressure it takes to make NO-732 grip. Then ask your Armstrong representative to arrange a test of NO-732 on one of your looms.

Send for the booklet, "Armstrong Textile Roll Coverings and Mill Supplies." Write Armstrong Cork Company, Industrial Division, 6908 Dauphin Street, Lancaster, Pennsylvania.

Armstrong LOOM SUPPLIES

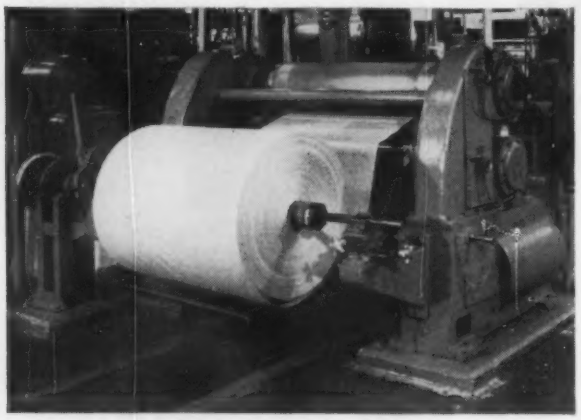
. . . used wherever performance counts

• LOOM CLUTCH DISCS AND INSERTS • PRESS ROLL COVERING • LOOM BRAKE & LET-OFF STRIPS • TEMPLE ROLL COVERINGS

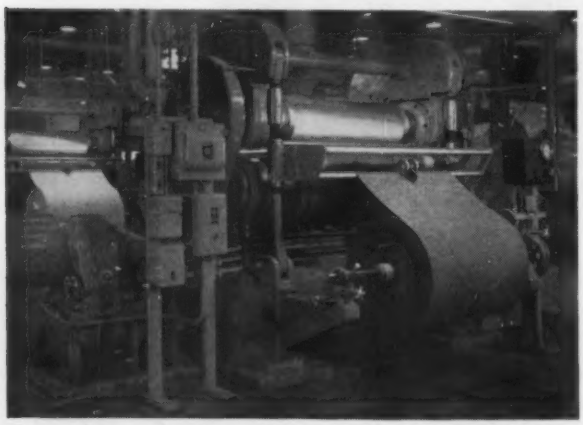


View of finishing operation at The Springs Cotton Mills, Grace Bleachery Division showing Appleton Machine Company 20 Ton Embossers and 50 Ton Schreiner Calenders.

Colonel Elliott Springs Chooses Appleton



One of three Appleton 20 Ton Embossers in use at The Springs Cotton Mills, Grace Bleachery Division.



One of three Appleton 50 Ton Schreiner Calenders specially adapted for everglaze finishes at Springs Cotton Mills, Grace Bleachery Division.

The uncommon elegance of Springmaid sheets can be attributed to Colonel Elliott Springs' shrewd judgment of textile machinery.

According to a trade journal article, the famous Springs Cotton Mills owner demands equipment that meets these requirements:

1—It must be modern.
2—It must be well made.
3—It must be the best available.

There never was a better time to invest in efficient equipment. If you would like to own the finest embossers or calenders in the industry, write or call an Appleton representative today. He will gladly analyze your needs, *without obligation.*

APPLETON MACHINE COMPANY
APPLETON WISCONSIN

CUSTOM-BUILDERS OF TEXTILE CALENDERS • CALENDER ROLLS OF ALL KINDS

new MIRACLE in METALLICS

AMERICAN INSTITUTE OF LAUNDERING
CERTIFIED
WASHABLE

A.I.L. APPROVAL

(American Institute of Laundering)

for METLON® with MYLAR*

FIRST and **ONLY METALLIC YARN** approved by the A.I.L. for *Washing* and *Ironing* at high temperatures.

The American Institute of Laundering is the Non-Profit Research Center of the Textile-Laundry Industry. No article is ever awarded their seal until it has been tested and meets A.I.L.'s exceptionally high standards of launderability. These standards are determined by thorough research in A.I.L. laboratories by skilled technicians plus the practical experience of thousands of laundries.

Imagine! Here is a new metallic yarn so unquestionably superior that it passed every phase of this rigid testing program. These tests proved that METLON with MYLAR showed absolutely no tendency to bleed or discolor fabrics in white work, light color, wool washing formulas. Approved color fast in sunlight, gas fading, perspiration and crocking tests. Did not separate in activated washing and finishing tests. Never before in history has a metallic yarn been awarded this coveted seal for guaranteed launderability!

Let our textile engineers work with you in the development of new metallic miracles in *your* particular field. Write, wire or phone TODAY!

METLON makes <u>everything</u> look better

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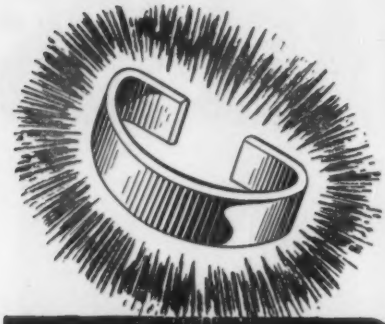

DARY
Ring Travelers

OUR SPECIALTY!

Our specialty is making Dary ring travelers — an item well and favorably known to the textile trade for more than half a century. Though times change, we at Dary hold to one course without deviation. We continue to serve, by pursuing our specialty.

When you need ring travelers, call on our experience to aid your choice. Consult your friendly Dary representative!

Always specify
DARY Ring Travelers

THE DARY RING TRAVELER CO.
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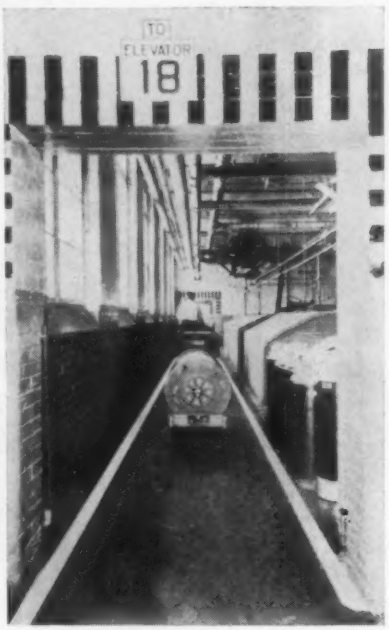
CRAWFORD "JACK" RHYMER, BOX 2261, GREENVILLE, S.C.

4 Operating Rules Cut Fork-Truck Costs

Everything has been engineered into fork trucks for continued high-level production except the skill of the people responsible for the trucks' operation. Therefore, the operator's judgment is as important to a job as good truck design, material, and workmanship.

In some ways, operator judgment is more important than all other features, because the lack of proper judgment can result in considerable property damage, severe injuries, or even loss of life.

During a day's work, a fork truck handles several tons of material; and truck operation must be carefully controlled if operating and maintenance costs are to be kept to a minimum. To obtain this objective, four general rules must be observed. These four rules can be tailored to your individual needs.



1. Use Equipment Properly

The first rule in using fork trucks properly is to let only qualified operators drive the truck. When the truck is left idle, remove the key from the cutout switch to keep unauthorized people from using the truck.

Never use the reverse gear as a substitute for the brakes, because this action strains the drive assembly severely. If the brakes are faulty, report the condition to the maintenance department so that necessary repairs can be made at once.

2. Load Equipment Correctly

The operator's responsibility includes seeing that each pallet is piled securely before he attempts to move the load. To load the pallet properly, the operator drives the truck under the pallet as far as possible to avoid spilling the load. At the same time, the forks are located centrally under the pallet, because off-center loads reduce the stability of the truck and also strain the parts of the lifting mechanism unnecessarily.

The operator knows the maximum safe-loading capacity of his truck and does not exceed this established safe limit. When loads at or near the maximum limit are being carried, the operator takes extreme care in handling the truck. This same care is also taken when loads are being moved at the high-lifting position or when telescopic trucks are being used. Only first or second speed is used under these conditions, and the floor should be smooth and level.

When the fork truck is being used to load highway trucks or trailers, the receiving-unit brakes are set and the wheels are blocked. If the springs are weak for the load, the body is supported with jacks or braces.

CONTINUED ON PAGE 206

You'll see wool oil performance at its best when you start using Proxol or Proxol-T.

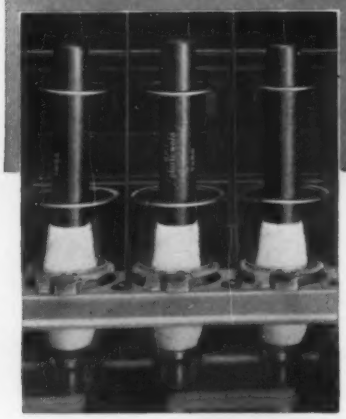
You'll get better, smoother processing at every stage of your operations–and at a surprisingly low cost. For example–greater yarn strength protection . . . freedom from fly . . . roping and yarn uniformity . . . easier scouring . . . brighter, level dyeing. There's a Proxol to meet *your* particular needs. If you'd like further particulars about Proxol or Proxol-T. . . or if you're up against some special wool oil problem–write us.

PROCTER & GAMBLE *Textile Finishes Sales Dept. Gwynne Building, Cincinnati 2, Ohio*

Makers of Profine, Orvus Products, Kyro Products, Olate and other top quality textile soaps and detergents.

For more information, write direct or use Reader-Service post card.

DELAWARE MILLS



Says Mr. William C. Appleton, President of Delaware Mills, Inc., "We are well satisfied with our HERR Conical Rings both on spinning and twisting."

Herr Conical Rings are used on these new Saco-Lowell GWALTNEY Spinning Frames. They are also used on Delaware Mills — Universal Winding Company 10B Twisters.

The HERR Conical Ring provides ideal conditions for the spinning or twisting of any yarn.

Produce High Bulk Orlon at Increased Speeds and with Improved Quality by Using ....

HERR CONICAL RINGS

Equip with HERR Conical Rings and begin to enjoy these profit making features. You can speed up production, improve quality and lower costs with HERR Conical Rings. You'll gain too, many other advantages. They stop yarn breakage, permit heavier doffs, produce smoother yarns and reduce fly. You'll enjoy cleaner yarn because oil is not thrown off. Frames and room floors stay cleaner. Travelers last longer because oil is carried in capillaries to ring surfaces. Maximum spindle speeds are achieved.

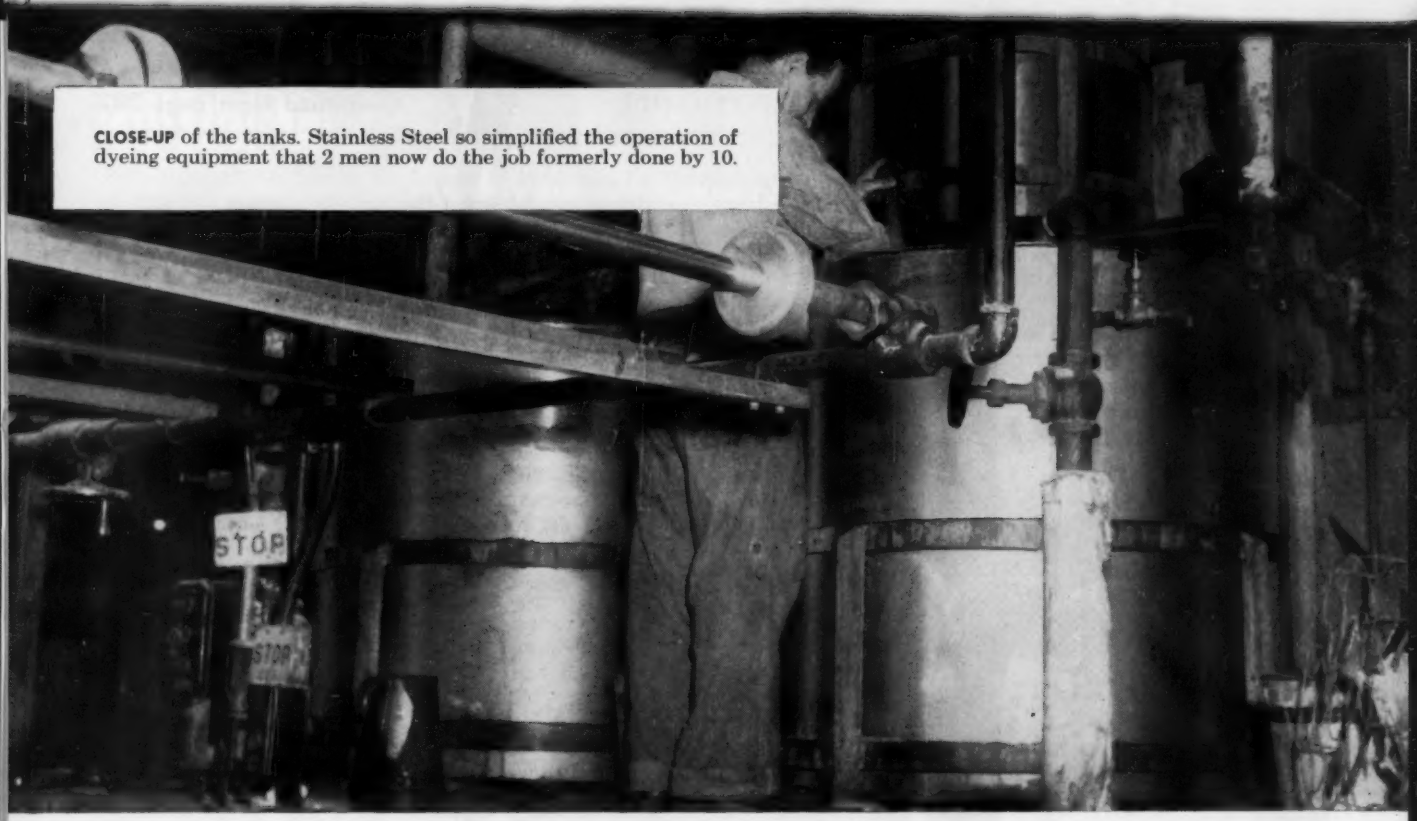
Learn more about these wonder rings. Write today for descriptive literature.

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON AND BLENDED YARNS OF ALL TYPES

HERR MANUFACTURING CO., INC.

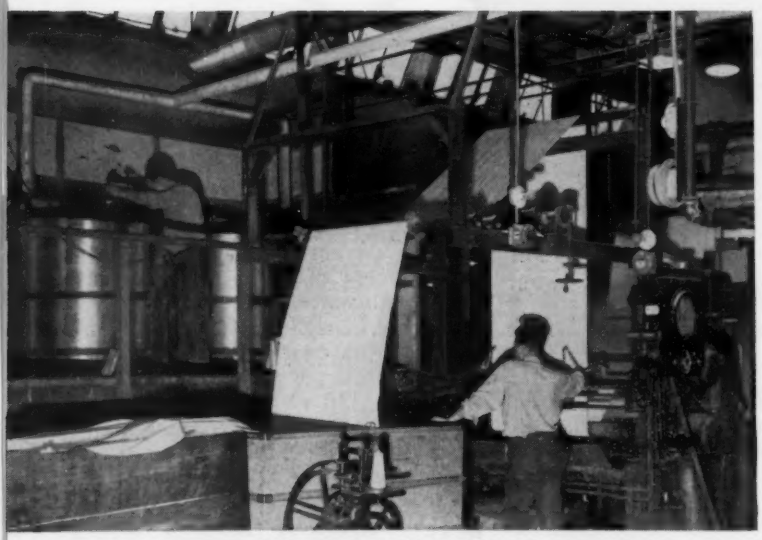
309 Franklin St., Buffalo, N.Y.

Continued from page 202



CLOSE-UP of the tanks. Stainless Steel so simplified the operation of dyeing equipment that 2 men now do the job formerly done by 10.

Wash up time cut 95% with Stainless Steel kettles



THIS SHOWS one of the dye machines. The gleaming Stainless Steel kettles are visible in the background.

at Millville Mfg. Company, Millville, N. J. oldest cotton mill, bleaching, dyeing and finishing plant in New Jersey

Before 1946, the Millville plant used wooden kettles, troughs and tanks for all dyeing equipment. When colors were changed, it took one man 3 hours to wash just one wooden kettle.

Now that Stainless Steel kettles are used, one man washes *three* kettles in 15 to 20 *minutes*. A nine hour job has been cut to a quarter hour, all because of Stainless Steel. These kettles have also eliminated *contamination* of color—a problem no matter how thoroughly the old kettles were washed. But these are only a part of the savings. Look at this service life record:

The previous wooden kettles and tanks lasted only from 6 to 12 months. When caustic soda was used in the dye solution, they never lasted more than 6 months. The Stainless Steel kettles have been in continuous service for 9 years and they are still going strong.

Nothing can equal Stainless Steel in a textile plant. No other metal has such a combination of corrosion resistance, strength, smoothness, cleanability and low cost. When you next buy equipment, ask for a quotation on Stainless Steel. For tops in quality, specify service-tested USS Stainless Steel.

UNITED STATES STEEL CORPORATION, PITTSBURGH • AMERICAN STEEL & WIRE DIVISION, CLEVELAND
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
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USS STAINLESS STEEL

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BARS • BILLETS • SPECIAL SECTIONS

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UNITED STATES STEEL

DUPONT TEXTILE MACHINERY NEWS

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NATURAL RAYON AND ACETATE YARNS

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DYEING OF RAYON, NYLON AND ACETATE YARNS

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MILL MAINTENANCE

Continued from page 202

The driver inspects all car, truck, and trailer floors carefully before he enters with the fork truck. The operator also makes sure the floors are strong enough to support the combined weight of the fork truck and the load.

3. Move Loads Carefully

When the operator starts to move the fork truck with a load, all speeds are used. The controller handle is not thrown in top speed immediately. When the truck is stopped, however, the operator returns the controller to neutral quickly to avoid dangerous arcing.

The operator does not drive the truck when it is in unsafe mechanical condition. He reports any mechanical or electrical fault to his supervisor at once.

Care is taken to prevent the loaded truck from passing over chips, oil, materials in process, or other obstructions. Dirty floors are reported. Aisles are marked with contrasting stripes and are kept clear all the time.

The driver is careful not to bump objects; he uses special care when he backs or turns the loaded truck. During travel, tracks that have to be crossed are crossed at a diagonal angle, and the operator keeps a firm grip on the steering control. He reduces his speed when he approaches elevators or is traveling down inclines.

4. Observe Safety Precautions

When the driver approaches and passes noisy machines, he avoids having his attention taken from his driving. He blows the horn, but he is also certain the warning is heard.

The operator travels with the load as close to the ground as possible to insure balancing the load over rough surfaces and while he makes turns. When loads are carried at the high-lift position, or on telescopic fork-truck models, the driver watches the overhead obstructions to be sure there's sufficient clearance.

When the load on the truck obstructs the operator's view, the truck is operated in reverse. The driver never drives the truck while his hands are wet or greasy. No riders are ever permitted on a unit. The driver takes care to see that all parts of his body are inside the truck, and he also never attempts to maneuver too close to people or other trucks. *The Mercury Mfg. Co.*

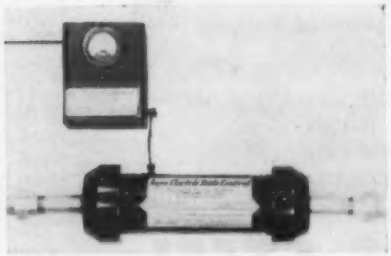
EQUIPMENT & SUPPLY NEWS

Continued from page 196

all types of plastic film, paper, and similar wrapping materials. The machine uses roll stock up to 22 ins. wide and dispenses sheets or bags in any of 56 different lengths from 4 to 31½ ins. Longer lengths may be obtained by pressing a button.

A faceplate heat sealer for manually sealing the packages can be positioned at the right end of the table. This equipment is available at extra cost.

The machine may also be equipped with an electric-eye control for cutting printed stock. **(T-35)**



Eliminate Scale in Water

Recent improvements in design have been incorporated in all five sizes of electric devices to eliminate or control scale in water made by Aqua Electric Scale Control, Inc., 2026 E. 22nd St., Cleveland 15, Ohio. The units are used to treat water electrically to prevent hard-scale formation in equipment that uses water or is cooled with water.

The five units range in size from ¾ to 4 ins. with treating capacity from 18 to 450 gals. per min. The devices operate on 110 v. When the units are used, a chemical change is created in the water and scale-forming elements precipitate. **(T-36)**

Reset Valves

Fireye Series 81G manual reset valves developed by Electronics Corp. of America, 720 Beacon St., Boston, Mass., were designed to be used with Fireye Flame-Failure safeguard systems in shutting off the flow of fuels in oil and gas burners in cases of faulty operation. The positive, leakproof closing action of these valves provides protection against burner-explosion hazards; and the manual reset mechanism prevents reopening unless the electric holding coil is energized. **(T-37)**

UNITED STATES STEEL

DU PONT

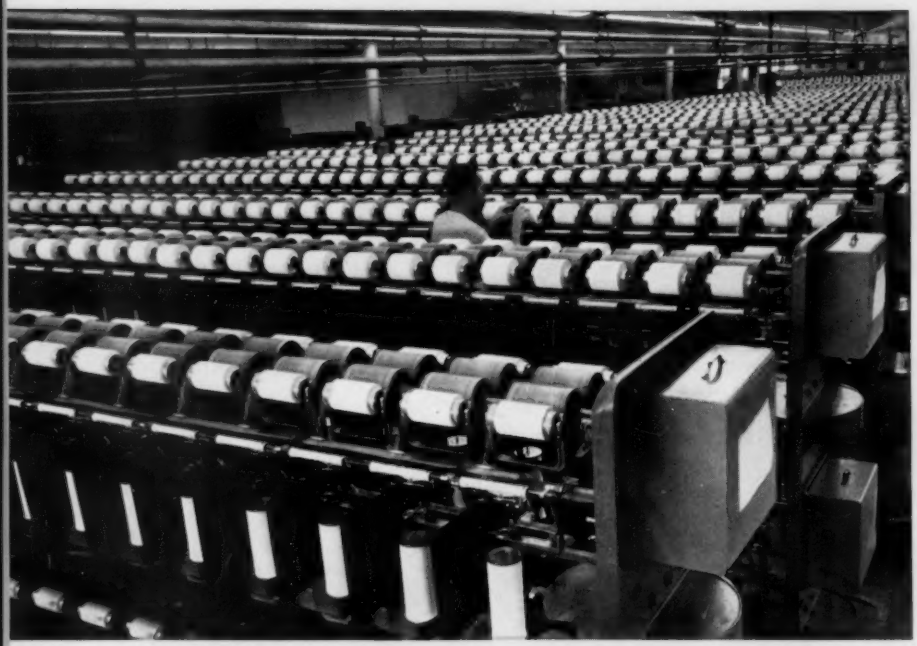
Better Things for Better Living ... Through Chemistry

TEXTILE MACHINERY NEWS

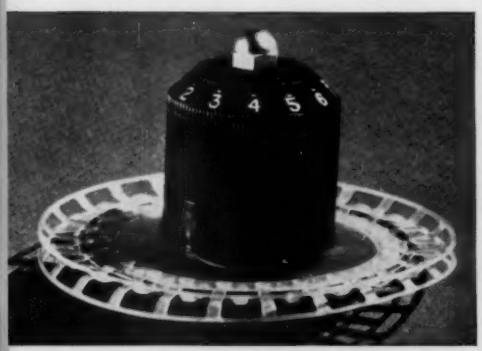
PROPERTY AND APPLICATION DATA ON THESE VERSATILE ENGINEERING MATERIALS: "ZYTEL," "ALATHON," "TEFLON," "LUCITE."

No. 4 — 1955

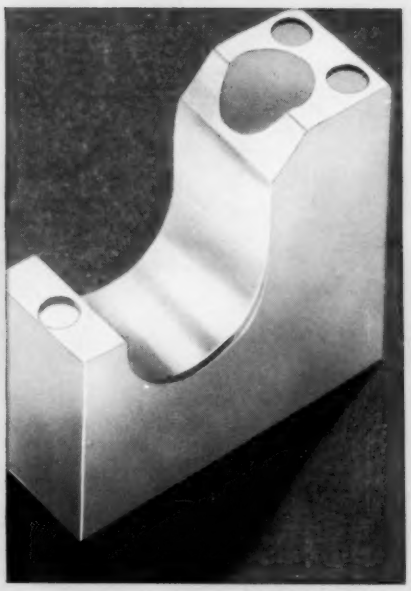
ZYTEL® Nylon Resin Is Tough, Wear-Resistant, Usually Needs No Oiling



These yarn twisters utilize bearings molded of Du Pont "Zytel" nylon resin. Bearings of "Zytel" run with little or no lubrication, prevent oil splatter on yarn.



Note the intricate molding of this yarn-tension brake pulley of "Zytel" nylon resin. Tension is exerted by magnetic force on the pulley and in turn on the yarn that passes around it.



A top roll hanger of "Zytel" nylon resin used on a spinning frame. Hangers need no lubrication, eliminate oil contamination. (Part designed by Macdonald and Sons, Inc., Seekonk, Massachusetts.)

Properties can cut production and operating costs

Parts molded of Du Pont "Zytel" nylon resin *belong* in today's modern textile machinery. By changing over to "Zytel", manufacturers can offer components that wear longer —thanks to the superior abrasion resistance of this versatile engineering material. Parts of "Zytel" are tough, with excellent impact strength, heat resistance, and dimensional stability. Problems of breakage and warping are virtually eliminated.

OIL SPOILAGE AVOIDED

Another significant advantage of "Zytel" nylon resin is its low coefficient of friction. This property often enables parts to operate continuously with little or no lubrication. Oil contamination of yarn is avoided. Maintenance costs can be sharply reduced.

PRODUCTION ECONOMIES

Parts of "Zytel" nylon resin can be formed by rapid, economical injection molding. For example, with this technique, components may be mass-produced in multi-cavity dies. Moreover, one molded piece can often do the work of assemblies made from two or even more pieces of other materials. Design is simplified, assembly time reduced.

Usually parts molded of "Zytel" need no further machining or refinishing. This can further cut production costs.

Textile machinery engineers should be thoroughly familiar with "Zytel" nylon resin—how it is being used today in the field, what new designs are being explored for the future, and the important combination of properties this engineering material offers.

OVER

DU PONT

Better Things for Better Living ... Through Chemistry

TEXTILE MACHINERY NEWS

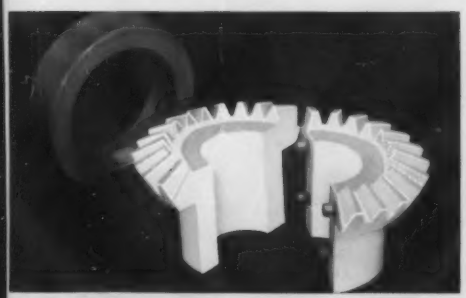
PROPERTY AND APPLICATION DATA ON THESE VERSATILE ENGINEERING MATERIALS: "ZYTEL," "ALATHON," "TEFLON," "LUCITE."

No. 4 — 1955

"Zytel" continued:

For further test and property data on "Zytel" nylon resin, clip and mail the coupon below.

Bearings of "Zytel" nylon resin, which are now standard equipment on the covering machines built by the H. H. Arnold Company, Inc., Rockland, Massachusetts. There are about 80 per machine.



Drive gear used on the "Master Duplex Doubler Twister" machines manufactured by the Fletcher Works, Inc., Philadelphia, Pennsylvania. Gear is molded in two sections, cost 1/3 less than steel gears used previously.

Self-Lubricating TEFLON® Offers New Design Opportunities

Du Pont "Teflon" tetrafluoroethylene resin is a versatile new engineering material which is finding more and more use in textile machinery. Because it is self-lubricating, parts of "Teflon" completely eliminate the problem of oil splatter on yarn or cloth. Its coefficient of friction is lower than that of any other engineering material. This low coefficient is not affected by temperatures even up to 500°F. and is virtually independent of load.

TYPICAL APPLICATIONS

Here are some recent applications of compounded "Teflon": it's used as a washer on a bobbin holder and as a bearing material for back and top rolls on a new saddle guide. A new machine used for dyeing synthetic fibers uses bushings of "Teflon" tetrafluoroethylene resin, capitalizing on the chemical inertness and wear-resistance of this versatile material. These are just a few of the present uses for "Teflon".

Below is a chart that lists the mechanical properties of Du Pont "Teflon" tetrafluoroethylene resin. For complete property and application data, mail the coupon below.

The ball and socket pivotal mounting on this Dixon Saddle Guide does away with the cap bar on the front roll. This new design, achieved through the properties of compounded "Teflon" tetrafluoroethylene resin, insures positive alignment and better yarn.

Casablanca spinning assembly with the Dixon Saddle Guide. Bearings on the back roll are removable and replaceable. Because they're made of compounded "Teflon", friction is lower and wear reduced. (Manufactured by the Dixon Corporation, Bristol, Rhode Island.)

Investigate Du Pont engineering materials in your product development programs

One of the family of these versatile engineering materials is often a key factor in product improvement or new product design. The wide range of properties available with "Alathon"* polyethylene resin, "Lucite"* acrylic resin, "Teflon"* tetrafluoroethylene resin, and "Zytel"* nylon resin are helping solve industrial design problems.

NEED MORE INFORMATION? Clip the coupon for additional data on the properties and application of these Du Pont engineering materials.

E. I. DU PONT DE NEMOURS & CO. (Inc.) POLYCHEMICALS DEPARTMENT
Room 184, Du Pont Building, Wilmington 98, Delaware
In Canada: Du Pont Company of Canada, Ltd., P. O. Box 660, Montreal, Quebec

Please send me more information on the Du Pont engineering materials checked: ☐ *"Zytel"*; ☐ *"Alathon"*; ☐ *"Teflon"*; ☐ *"Lucite". I am interested in evaluating these materials for:*_____

NAME_____ POSITION_____

COMPANY_____

STREET_____

CITY_____ STATE_____

TYPE OF BUSINESS_____

*"Alathon", "Zytel", "Lucite", "Teflon" are registered trade-marks of E. I. du Pont de Nemours & Co. (Inc.)

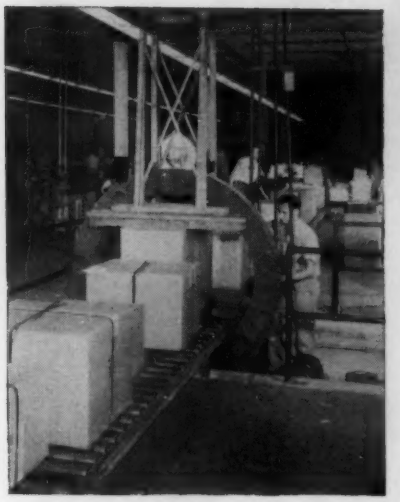
Mechanical Properties of Molded Du Pont TEFLON®

PROPERTY		METHOD
Tensile Strength, 73°F.	1,500-3,000 p.s.i.	D638-52T
Elongation, 73°F.	100-200%	D638-52T
Flexural strength, 73°F.	did not break	D790-49T
Stiffness, 73°F.	50,000-90,000 p.s.i.	D747-50
Impact strength, Izod, −70°F.	2.0 Ft.-lb./in.	D256-47T
73°F.	3.0 Ft.-lb./in.	D256-47T
170°F.	6.0 Ft.-lb./in.	D256-47T
Hardness, Durometer	D50-D56	D676-49T
Compressive stress at 1% deformation, 73°F.	600 p.s.i.	D695-52T
at 1% offset, 73°F.	1,000 p.s.i.	D695-52T
Coefficient of linear thermal expansion per °F., 73-140°F.	5.5×10^{-5}	D696-44
Thermal Conductivity 0.18 in.	1.7 B.T.U./h4./sq./ft./°F./in.	Cenco-Fitch
Specific heat	0.25 B.T.U./lb./°F.	
Deformation under load 122°F., 1,200 lb./sq. in., 24 hrs.	4-8%	D621-51
122°F., 2,000 lb./sq. in., 24 hrs.	25%	D621-51
Water-absorption	0.005%	D570-42
Flammability	nonflammable	D635-44
Specific gravity	2.1-2.2	D792-50
Resistance to weathering	excellent	
Static or kinetic coefficient of friction against polished steel	0.04	

* Various methods used.

Massachusetts.)

engineering material offers.



Automatic Band Strapper

A completely automatic band strapper for large-volume packaging is being made by General Strapping Corp., 100 Park Ave., New York 17, N. Y.

The Auto-Band strapper is made in two sizes. The standard ring-gear machine straps packages as small as 9 ins. wide and 3 ins. high and as large as 40 ins. wide and 28 ins. high. The large ring-gear machine also straps packages as small as 9 ins. wide and 3 ins. high but, in addition, straps packages up to 51 in. wide and 54¼ ins. high.

Features of the machine are:

1. It makes double-spot-welded joints, and therefore the need for metal seals is eliminated.

2. The fast, easy operation reduces labor costs by permitting one or two men to do the work formerly done by three to six men.

The package or container enters the ring gear from a conveyor. The operator presses a lever or button to start the strapping cycle. The machine wraps the strap around the package, tensions the strap, seals the strap, and cuts off the band. Then the machine is ready for the next cycle. The operator does not touch the band during the operation **(T-38)**

Special Stainless-Steel Pail

Reading Scientific Co., Reading, Pa., has developed a pail especially designed to handle hot or cold sulfuric acid and other corrosive liquids. Made from 24-gauge Carpenter Stainless No. 20, the pail is proving useful in dyehouses. Corrosion resistance to sulfuric acid at all concentrations and up to 125° F. temperature is excellent. **(T-39)**

Nonrun Attachment

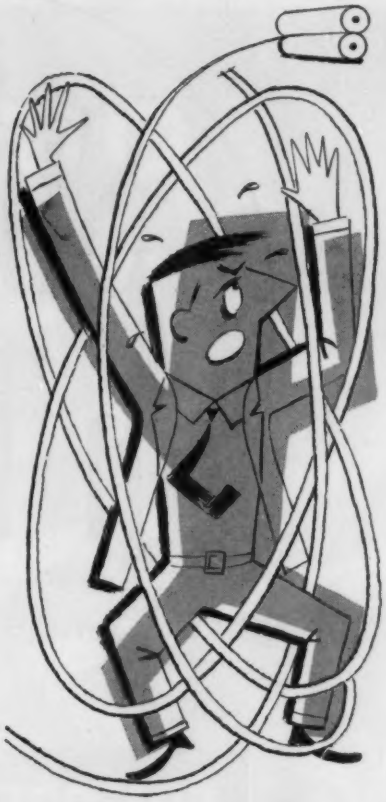
An attachment for full-fashioned knitting machines, developed by B. P. Hall Ltd., Hartley Road, Nottingham, England, enables lace-mesh patterns to be made on all gauges of single and multisection machines.

Half points in alternate slots of the picot bar expand loops over two needles to provide a nonrun effect. The transfer control mechanism, controlled from the main shaft, obtains any transfer pattern from one to four courses. **(T-40)**

Stretch-Stocking Boarding Forms

Two new stretch-stocking boarding forms are made by Turbo Machine Co., Lansdale, Pa. One model is shortened to allow for lengthwise stretch and fit. The other style is narrower to provide spreading the finished stocking in width.

The new forms are aluminum with a glass-smooth finish. The form bases can be ordered to fit standard Turbo machines or those of other manufacturers. The new forms will sell for about $8 each. **(T-41)**



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TYPE OF BUSINESS

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Friction against polished steel	0.04

*Various methods used.

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ECLIPSE BOBBIN HOLDERS

THE FAVORITE!

The many exclusive features built into the Eclipse Bobbin Holder have made it the favorite of many leading textile organizations. They have found in actual operation that the Eclipse Bobbin Holder is outstanding in every way, and that the Eclipse reputation for basic quality and goodness is well deserved. If you are interested in modernizing your present plant equipment, you will surely want the finest—and the finest means Eclipse. Investigate today by writing or calling the Eclipse Machine Company direct.

These Features Mean Eclipse Superiority

1. Completely replaces wooden skewers.
2. Ball bearings minimize friction, resulting in uniform quality of roving.
3. Permits less twist. Tests indicate yarn of more even texture.
4. Creel boards easily cleaned. Overhead suspension leaves open creels. Blowers more effective.
5. Better spinning of spun rayon.
6. Easier creeling; less physical effort and fewer motions required.
7. Improved brake attachment prevents overrun and backlash.
8. Now cadmium plated and stainless steel balls more rust resistant.
9. Time-tested product—holders in operation for over ten years.
10. Easy to install; practically no upkeep.

Export Sales: Bendix International Division, 205 East 42nd St., N. Y. 17, N. Y.

ECLIPSE MACHINE DIVISION of Bendix AVIATION CORPORATION

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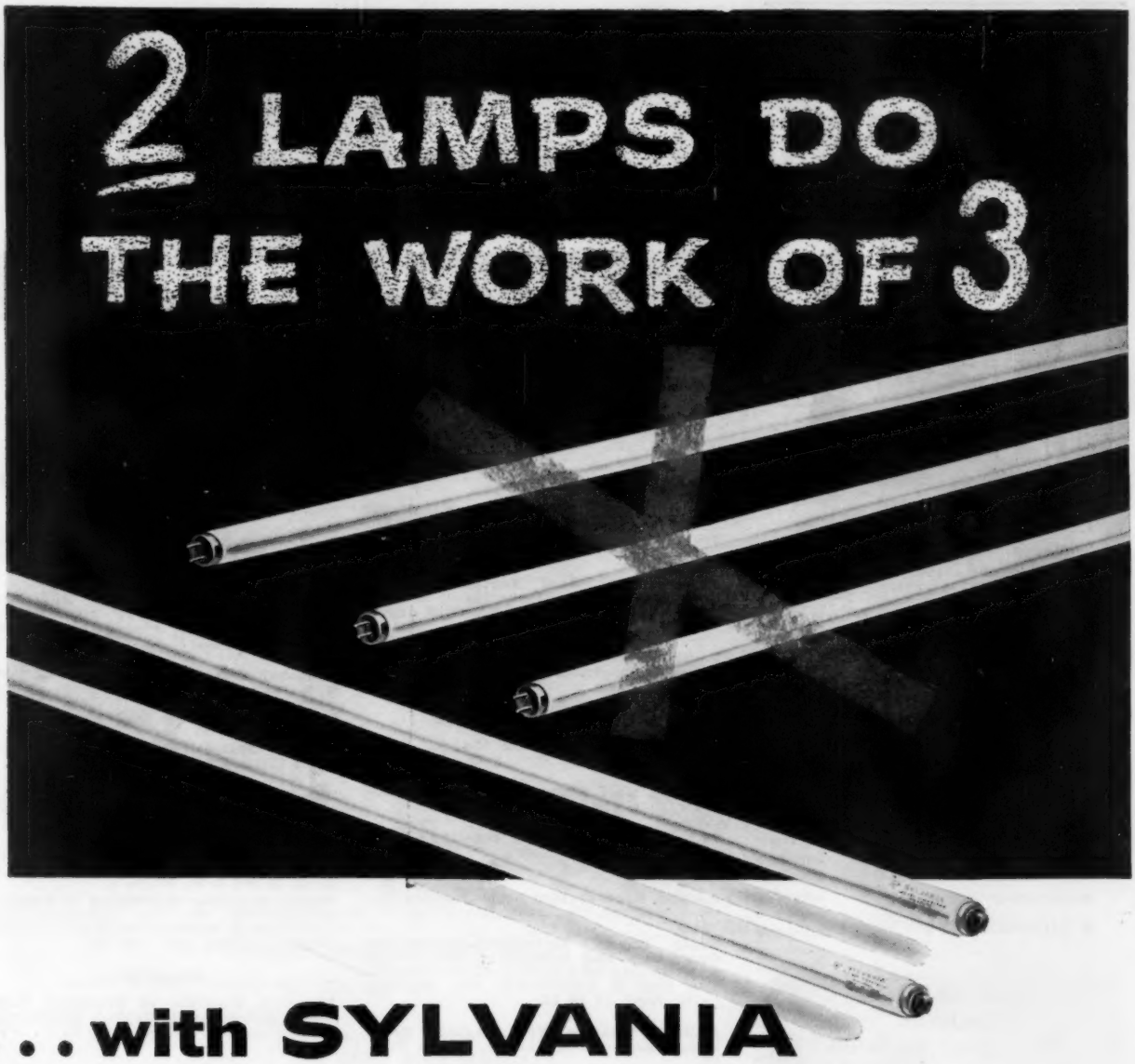

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King-Size, High-Output Lamp

Now here's the fluorescent lamp that offers *more light output than ever before from a single fluorescent lamp*—in the new Sylvania 96", T-12, 100-watt Rapid Start lamp.

Providing as much as 40% more light output than previous 8-foot lamps—this new Sylvania lamp can bring you important installation and maintenance savings.

With this new Sylvania lamp you can now make a two-lamp fixture do the work of a three-lamp fixture . . . for economies when you put them up . . . economies every time you maintain lamps.

For information on this new Sylvania development, write Department 5L-5208,

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CALENDAR

August

2nd Annual Training Directors Institute of the American Society of Training Directors, Eagle Waters Resort, Eagle River, Wis., Aug. 7 to 20.

International Wool Textile Research Conference, Sydney (four days), Geelong (five days), and Melbourne (five days), Australia, Aug. 22 to Sept. 9.

Southern Hosiery Manufacturers Assn., annual convention, Hotel Roanoke, Roanoke, Va., Aug. 25 and 26.

September

Production Engineering Show, Navy Pier, Chicago, Ill., Sept. 6 to 16.

Machine Tool Show, International Amphitheater, Chicago, Ill., Sept. 6 to 17.

The Fiber Society, fall meeting, Mass. Institute of Technology, Cambridge, Mass., Sept. 8 and 9.

AATCC, Southeastern Sect., Ralston Hotel, Columbus, Ga., Sept. 10.

Tenth Annual Instrument-Automation Conference and Exhibit of the Instrument Society of America, Shrine Exposition Hall & Auditorium, Los Angeles, Calif., Sept. 12 to 16.

AATCC, Western New England Sect., Rapp's Restaurant, Shelton, Conn., Sept. 16.

Combed Yarn Spinners Assn., annual meeting, The Homestead, Hot Springs, Va., Sept. 16 and 17.

Chemical Finishing Conference, National Cotton Council, Chalfonte-Haddon Hall, Atlantic City, N. J., Sept. 20 and 21.

Packaging and Handling Exposition, Kingsbridge Armory, New York, N. Y., Sept. 20 to 22.

AATCC national convention, Chalfonte-Haddon Hall, Atlantic City, N. J., Sept. 21 to 23.

Northern Textile Assn. and National Assn. of Cotton Manufacturers, annual convention, Wentworth-By-The-Sea, Portsmouth, N. H., Sept. 29 and 30.

Textile Methods and Standards Assn., fall meeting, Clemson House, Clemson, S. C., Sept. 29 and 30.

Standard Engineers Society, annual meeting, Hotel Statler, Hartford, Conn., Sept. 29 to Oct. 1.

October

Alabama Textile Operating Executives, Thatch Hall, Alabama Polytechnic Institute, Auburn, Ala., Oct. 1.

AATCC, Pacific Southwest Sect., Gourmet Restaurant, Beverly Hills, Calif., Oct. 7.

American Society of Lubricating Engineers, Antlers Hotel, Indianapolis, Ind., Oct. 10 to 12.

North Carolina Textile Manufacturers Assn., annual meeting, Carolina Hotel, Pinehurst, N. C., Oct. 13 and 14.

National Council for Textile Education, fall meeting, sponsored by American Textile Machinery Assn., The Larches, Hopedale, Mass., Oct. 17 to 19.

National Safety Congress and Exposition, industrial safety sessions, Conrad Hilton, Morrison, and LaSalle Hotels, Chicago, Ill., Oct. 17 to 21.

AATCC Philadelphia Sect., Penn-Sherwood Hotel, Philadelphia, Pa., Oct. 21.

The Quartermaster Assn., annual convention, Conrad Hilton Hotel, Chicago, Ill., Oct. 27 and 28.

AATCC, Piedmont Sect., Hotel Barringer, Charlotte, N. C., Oct. 29.

Textile Operating Executives of Georgia, fall meeting, Harrison Hightower Textile Building, Georgia Institute of Technology, Atlanta, Ga., Oct. 29.

November

American Institute of Electrical Engineers, Mid-Atlantic Textile Conference, N. C. State College, Raleigh, N. C., Nov. 3 and 4.

AATCC Western New England Sect., Hartford, Conn., Nov. 4.

Carded Yarn Association, annual meeting, Bon Air Hotel, Augusta, Ga., Nov. 10 and 11.

December

AATCC, Philadelphia Sect., Kugler's Restaurant, Philadelphia, Pa., Dec. 2.

AATCC, Southeastern Sect., Atlanta Biltmore Hotel, Atlanta, Ga., Dec. 3.

AATCC, South Central Sect., Hotel Patten, Chattanooga, Tenn., Dec. 10.

AATCC, Western New England Sect., Rapp's Restaurant, Shelton, Conn., Dec. 16.

1956

February

AATCC, Pacific Southwest Sect., Gourmet Restaurant, Beverly Hills, Calif., Feb. 6.

May

The Fiber Society, spring meeting, The Clemson House, Clemson, S. C., May 2 and 3.

June

Materials Handling Institute Exposition of 1956, Public Auditorium, Cleveland, Ohio, June 5 to 8.

OUR MANUFACTURING PROGRAM INCLUDES :

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To the Employee Relations Director of every American company

LET'S FACE IT . . . the threat of war and the atom bomb has become a real part of our life—and will be with us for years. Fires, tornadoes and other disasters, too, may strike without warning.

The very lives of your employees are at stake. Yours is a grave responsibility. Consider what may happen.

When the emergency comes, everybody's going to need help at the same time. It may be hours before outside aid reaches you. The best chance of survival for your workers—and the fastest way to get back into production—is to know what to do and be ready to do it. To be unprepared is to gamble with human lives. Disaster may happen TOMORROW. Insist that these simple precautions are taken TODAY:

☐ **Call your local** Civil Defense Director. He'll help you set up a plan for your offices and plant—a plan that's safer, because it's entirely integrated with community Civil Defense action.

☐ **Check contents** and locations of first-aid kits. Be sure they're adequate and up to date. Here again, your CD Director can help—with advice on supplies needed for injuries due to blast, radiation, etc.

☐ **Encourage personnel** to attend Red Cross First Aid Training Courses.

☐ **Encourage your staff** and your community to have their homes prepared. Run ads in your plant paper, in local newspapers, over TV and radio, on bulletin boards. Your CD Director can show you ads that you can sponsor locally. Set the standard of preparedness in your plant city. There's no better way of building prestige and good employee relations—and no greater way of helping America.

Act now . . . check off these four simple points . . . before it's too late.

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By finish grinding a carefully selected crown radius on roller ends, Rollway relieves high stress areas, insures uniform distribution of load over the entire length of the roller. Rollers can take heavier loads without excessive end-fatigue, and are less subject to the effect of slight misalignment or deflection.

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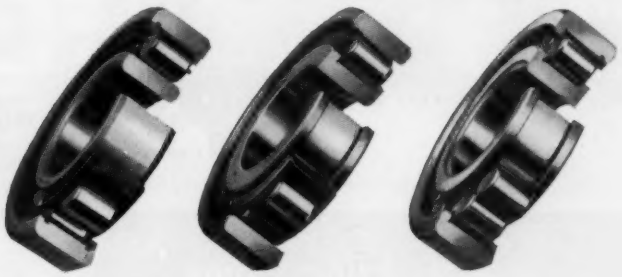
Tru-Rol Bearings with crowned rollers are available in 3 types

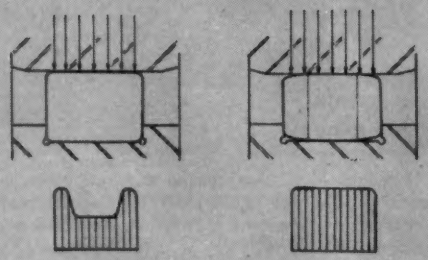


Stamped Steel Retainer with Guide Lips

Segmented Steel Retainer

Full Roller

Comparative Stress Patterns under Uniform Loads for Straight and Crowned Cylindrical Rollers



Stress pattern for a straight cylindrical roller under load. Note uneven end-loading.

Stress pattern for crowned roller under load. Crowning radius is exaggerated for clarity.

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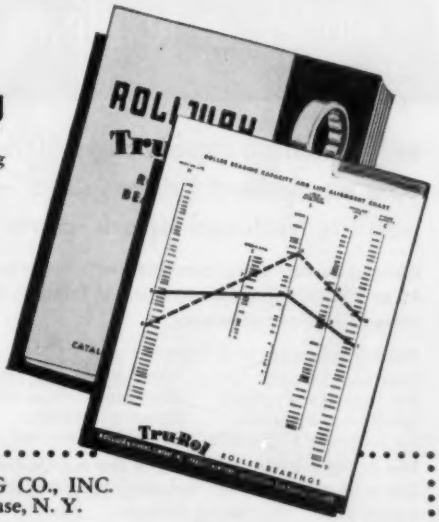

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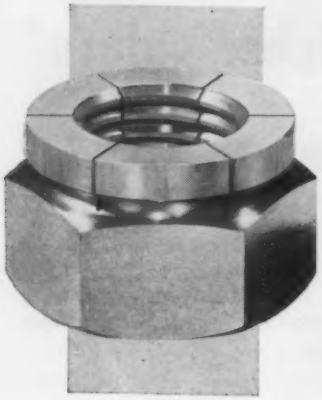

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FLEXLOC LOCKNUT DIVISION SPS JENKINTOWN PENNSYLVANIA

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cuts machine repair costs 80%— cuts equipment "down-time"— permits reduced spare parts stocks

Practically any worn machine part—repaired for only 15 or 20% of replacement cost—in minutes and hours, instead of days or weeks.

Worn Equipment and Parts

Drive shaft journals	Top rolls, necks and centers
Roll journals and surfaces	Slasher roll surfaces and journals
Spindle tops and whorls	Blanket roll journals
Calender rolls and journals	Sand roll surfaces and journals

The list of metallizing users in the textile field reads like a Blue Book of the industry. Here are just a few:

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Dan River Mills	Greenwood Mills	Bruck Mills (Canada)

For further information see our 8-page Bulletin in Sweet's File for Plant Engineers, or write for special free bulletin "Whip Waste with Metallizing in Textile Plants."

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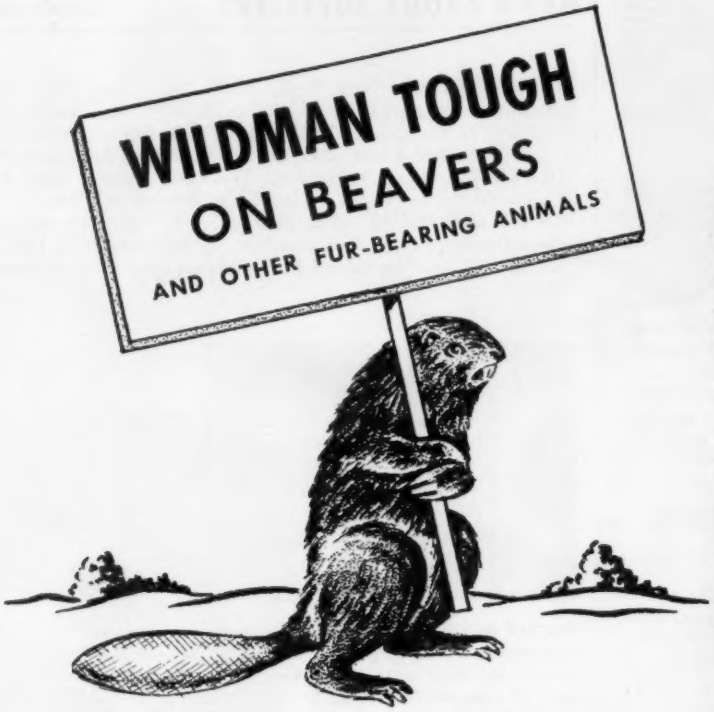
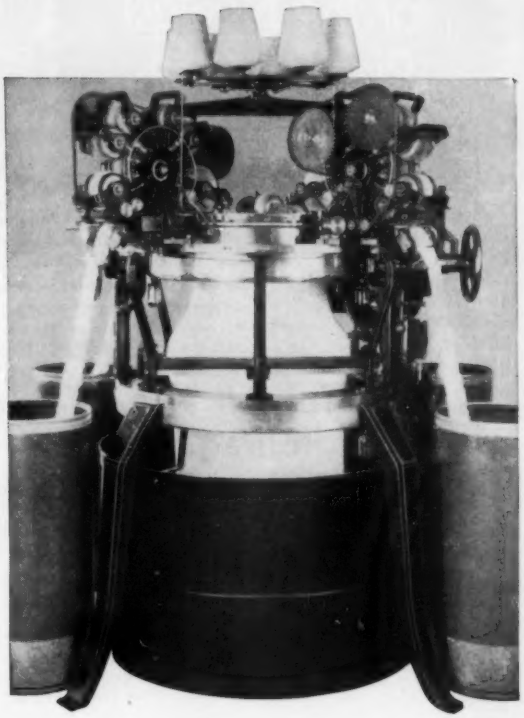
NEWS about SUPPLIERS

AMERICAN CYANAMID CO., New York, N. Y.—Has named H. C. Milton department manager, R. L. Lambert assistant manager, and J. F. Allen Eastern regional sales manager for the Manufacturers Chemicals Dept. Dr. William H. Bowman has been appointed assistant general manager of the Organic Chemicals Div. . . . **AMERICAN VISCOSE CORP.**, Philadelphia, Pa.—Has named the following technical supervisors at its Marcus Hook plant: Dr. Ben E. White, textile yarns; William P. Dooley, staple and tow; Richard W. Bonnet, tire yarns. Derby A. Denson has been named sales representative for the Staple Sales Div., New York, N. Y. . . . **ARNOLD, HOFFMAN, INC.**, Providence, R. I.—Has named Warren L. Wurster assistant plant manager at the Dighton, Mass., plant. A. H. Noble has been named plant manager at Cincinnati, Ohio, and Howard Belue has been named plant manager at the Charlotte, N. C., plant. . . . **BUDD CO.**, Philadelphia, Pa.—Has purchased the Continental-Diamond Fibre Co., Newark, Del., and will operate it as a subsidiary. . . . **CHEMSTRAND CORP.**, Decatur, Ala.—Has placed a demonstration dyehouse unit in operation to demonstrate dyeing and finishing techniques for sweater fabrics made of

DRAPER CORP., Hopedale, Mass., has opened this new office and warehouse in Atlanta, Ga. The new 44,000-sq.-ft. building will permit faster processing of orders and improved distribution. Over 7500 items will be stocked for immediate delivery.

Acrilan. . . . **CLINTON FOODS, INC.**, Clinton, Iowa—Has moved into its new laboratory and office building in Greenville, S. C. C. F. Cline, Jr., has been appointed district sales manager in this area. . . . **EASTMAN CHEMICAL PRODUCTS, INC.**, Kingsport, Tenn.—Has appointed Bruce Roberts advertising manager of the textile division. . . . **EMKAY CHEMICAL CO.**, Elizabeth, N. J.—Has promoted Alexander P. Roy to sales manager for the Southern area. . . . **HARODITE FINISHING CO.**, North Dighton, Mass.—Has been granted the right to use American Cyanamid's Permel Plus in the production of interfacings. . . . **IDEAL MACHINE SHOPS, INC.**, Bessemer City, N. C.—Has named James A. Rayfield and Arthur Rayfield sales engineers. . . . **LUCEY BOILER & MFG. CO.**, Chattanooga, Tenn.—Has named Alexander F. Schenk and John E. Schenk its agents in the South with headquarters in Charlotte, N. C. . . .





This machine can't chew up trees, but it can and does produce an amazing variety of fur-like fabrics for a waiting market. By means of an unusual fiber carding attachment, raw staple is fed to knitting needles, and then locked together with regular knitting yarn formed into backing fabric of plain jersey construction.

HIGH PILE FABRIC KNITTING MACHINE

Uses Any Type or Size of Staple

Natural fibers as well as Orlon, Nylon, Rayon, Acrilan, Dynel or any other synthetics by themselves or in combinations with natural fibers. Staple size can range from ¾ inches and up—producing an almost unlimited number of fleecy and fur-like fabrics. Depth of pile is determined by the size of staple fed into the carding attachment . . . We will gladly arrange for a demonstration of this profit-building machine at your convenience. Inquire today for complete technical details.

WILDMAN *makes the machines that tend to their own knitting.*

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Manufacturers of: **FULL FASHIONED HOSIERY MACHINES; CIRCULAR MACHINES FOR OUTERWEAR, UNDERWEAR, SPORTSWEAR, TRIMMINGS; STOP MOTIONS**

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At last--an entirely *new* Slasher Cloth, with a well-cushioned body that assures far better slashing of yarn . . . unexcelled starch penetration . . . and greater resistance to abrasion! Extra high tensile strength minimizes tearing. Chemically treated--*at your option without extra charge*--to hold shrinkage at a minimum . . . combat chemical attack and increase service life. Made only from precision-blended, long length, finely selected wools, with rigid quality control in manufacture.

. . . and for All Your Industrial Textile Requirements

✓ **CLEARER CLOTH** . . . all wool or cotton back; highest quality—yet, low in price.

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✓ **LAPPING CLOTH** . . . cotton warp; either all wool, or part synthetic filling.

✓ **OTHER SPECIALTY WOVEN FABRICS** . . . developed at your request.

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The oldest manufacturer of woven industrial fabrics in America

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Made by experts . . . after years of careful research . . . EMPIRE TEXTILE MILL CRAYONS meet the industry's most exacting requirements for textile marking and identification.

Every year, millions of these top-quality marking crayons join the production teams of textile mills across the nation.

Marking *counts* in efficient production. Count on EMPIRE TEXTILE MILL CRAYONS . . . First choice of textile experts everywhere! *Free marking guide gladly sent. Dept. T-8*

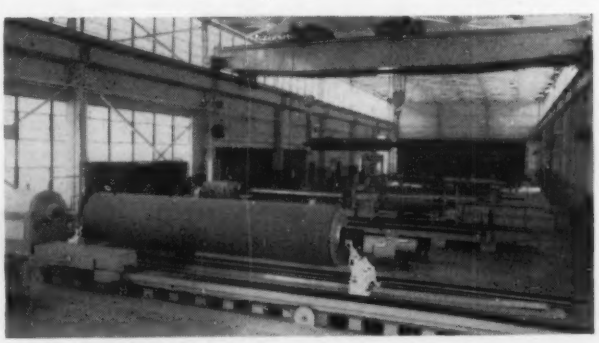
a The American Crayon Company Sandusky, Ohio New York

NEWS ABOUT SUPPLIERS Continued

METLON CORP., New York, N. Y.—Has named Karl H. Inderfurth a representative in the south with headquarters in Charlotte, N. C. . . . **METRO-ATLANTIC, INC.**, Centredale, R. I.—Has opened a new office and laboratory in Fairlawn, N. J. **MILPRINT, INC.**, Milwaukee, Wis.—Has named Ray E. Wagner to the sales staff. He will be located in Ohio. . . . **NOPCO CHEMICAL CO.**, Harrison, N. J.—Has named G. Daniel Davies executive vice president. . . . **PARA-CHEM, INC.**, Philadelphia, Pa.—Has named F. J. DeMaria director of research

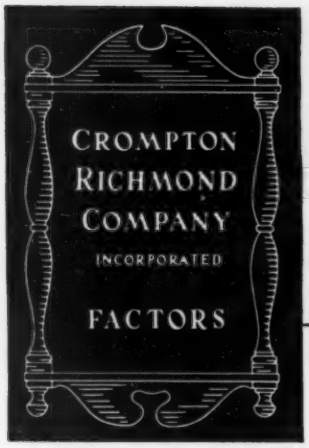
WALTER M. KELLY (left) has been named executive vice president of Commercial Factors Corp., New York, N. Y. RICHARD F. AMACHER (center) has been named sales manager of the Bulk Corn Products Dept. of Anheuser-Busch, Inc., St. Louis, Mo. MILTON E. BERGLUND (right) has been named executive vice president of the Torrington Co., Torrington, Conn.

and Russell F. Crawford, Jr., technical sales representative for the Specialtites Div. . . . **RICHMOND OIL, SOAP & CHEMICAL CO., INC.**, Philadelphia, Pa.—Has appointed Thomas G. Tierney its representative in Chattanooga, Tenn. . . . **C. G. SARGENT'S SONS CORP.**, Graniteville, Mass.—Has named J. R. Angel a Southern representative with offices in Atlanta, Ga. . . . **SEYDEL-WOOLLEY & CO.**, Atlanta, Ga.—Has named E. F. Harrision sales-service representative with headquarters in Greensboro, N. C. . . . **STOWE-WOODWARD, INC.**, Newton, Mass.—Has named Ralph M. Leighton technical service manager. Dr. Warren Stubblebine has been appointed director of research and development. . . . **TYER RUBBER CO.**, Andover, Mass.—Has elected Franklyn J. Emmett and Kenneth C. Bevan vice presidents. . . . **UNIVERSAL WINDING CO.**, Providence, R. I.—Has named J. Alan Nasmith director of export sales. . . . **VERSENES, INC.**, Framingham, Mass.—Has been absorbed by the Dow Chemical Co., Midland, Mich. Manufacture of Versenne and Versenol will continue at Framingham, but sales and development functions will be transferred to Michigan.



STOWE-WOODWARD, INC., Newton Upper Falls, Mass., recently opened its new plant in Griffin, Ga. Facilities for covering all types of textile- and paper-mill rolls are available. Paul Mitchell is plant manager.

Step out of the vicious circle



If you're angling for more volume to get more cash; and extending more credit which ties up still more capital; use Crompton Factoring and escape from the vicious circle.

The more business you do the more daily cash you get from Crompton for your receivables – and without recourse. And the more bills you can pay that much sooner to get more goods for your expanding business. That immediately takes the squeeze off your business, and relieves your mind so you can concentrate on production and distribution.

And there's a saving! You do away with receivable bookkeeping, the cost of collection, and the hazards of credit.

The Human Factor

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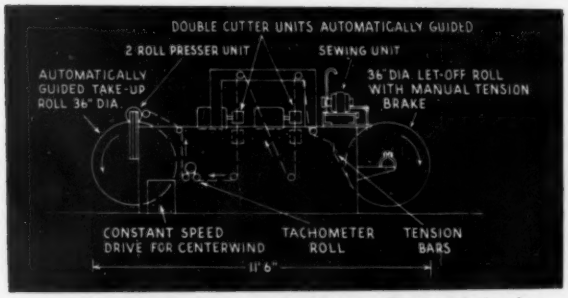
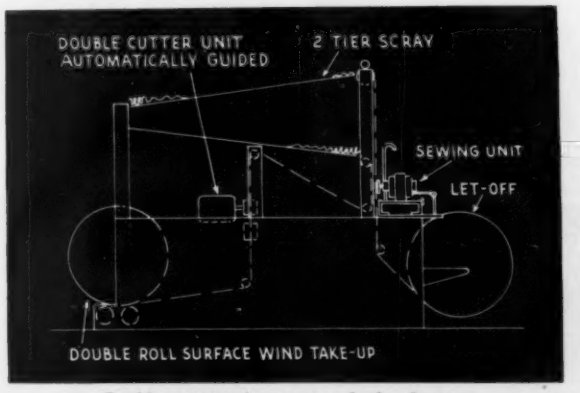
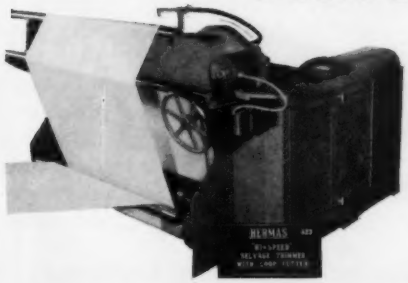
Hermas Selvage Trimmer makes many CLOTHROOM OPERATIONS *Automatic*



Two double cutter units on each selvage. Center wind take-up roll automatically guided to assure straight edges.



Double cutter unit on one or both selvages, two tier scray, sewing unit.



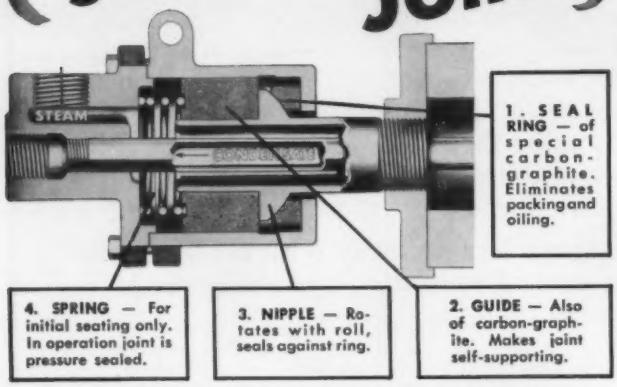
Hermas new selvage trimmer combined with various attachments now makes cleaning the selvage of textured cloth and other fabrics, including woolens and worsteds, entirely automatic.

This machine cleans selvages at 50 to 150 yards a minute. It may be combined with other machines. We illustrate two such possible setups here. We have many others.

Write for information on this machine and various possible combinations with other machines.

HERMAS MACHINE CO.
229 ROYAL AVENUE
HAWTHORNE, NEW JERSEY

Only 4 internal parts in this self-supporting Johnson Joint


STEAM
1. SEAL RING — of special carbon-graphite. Eliminates packing and oiling.
4. SPRING — For initial seating only. In operation joint is pressure sealed.
3. NIPPLE — Rotates with roll, seals against ring.
2. GUIDE — Also of carbon-graphite. Makes joint self-supporting.

With this 3000 Series Type S-B2 Joint, an assembly plate can be added at any time; it is used with the Johnson Syphon Elbow, to hold internal parts in position when the head is removed. Write for Bulletin No. S-2001.

The Johnson Corporation

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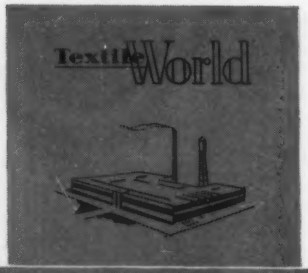


NEWS about MILLS

COTTON MILLS

Arcade Cotton Mills, Rock Hill, S. C., has been purchased by Mt. Vernon-Woodberry Mills, Inc., Baltimore, Md. Mt. Vernon-Woodberry plans to install over $500,000 worth of new equipment.

Bigelow-Sanford Carpet Co., Inc., Summerville, Ga., has completed its fourth major expansion at its tufting plant at Summerville, Ga. This expansion more than doubles the plant's monthly production.

Broad River Mills, Blacksburg, S. C., has been purchased by Roy C. McCall, Easley, S. C.

Pequot Mills, New York, N. Y., a division of Indian Head Mills, has moved its general sales office from the Empire State Building to 1407 Broadway.

Riegel Textile Corp., Johnston, N. C., plans to build a new plant that will employ about 400 persons in the sewing of diapers and pillowcases. The Johnston plant is being built to make room for another expansion at Ware Shoals, N. C.

Scranton Lace Co., Scranton, Pa., is converting its yarn spinning mills from regulation spinning to long-draft process. The pilot plants are located at Kings Mountain, N. C. One plant has already been converted, and machinery for conversion of the second plant has been received. The changeover is expected to boost production capacity approximately 15%.

N. Sumergrade & Sons, Brooklyn, N. Y., has moved its plant to Jersey City, N. J., where a building providing nearly double the previous space was purchased. The plant is expanding its production.

Woodside Mills, Easley, S. C., is planning a $225,000 expansion program that will add 6,000 sq. ft. of manufacturing space. A tower is being built outside the present plant to house stairs and elevators.

WOOLEN AND WORSTED MILLS

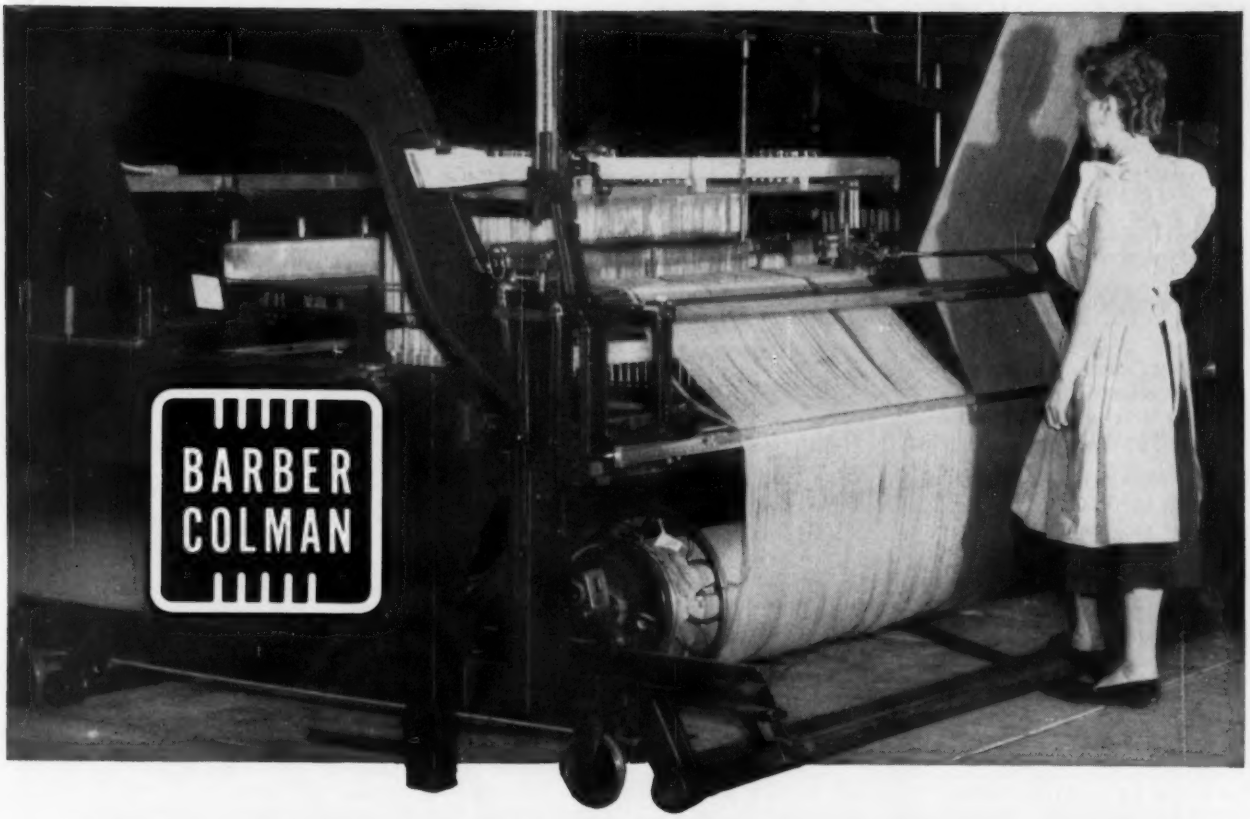
Albany Felt Co., Albany, N. Y., plans to build a plant at St. Stephens, S. C.

Botany Mills, Inc., Passaic, N. J., has purchased Gastonia Combed Yarn Corp. The company will be known as Botany Cottons, Inc.

Carolina Worsted Yarns, Inc., Dillon, S. C., will build a plant to manufacture worsted and synthetic yarns. New machinery will be installed.

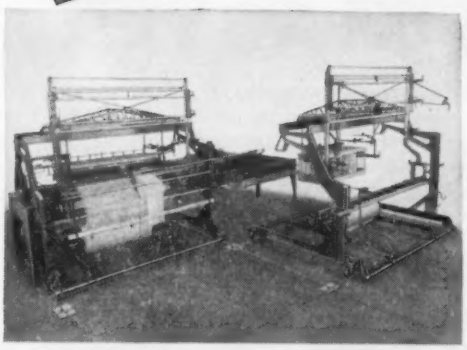
Champlain Mills, Inc., Burlington, Vt., a new firm, has purchased 210,000 sq. ft. of floor space in two mills of the old American Woolen Co., from the Winooski Realty Co. The firm plans to establish a 48-loom woolen mill to make medium-priced woolens and some blends.

James Lees & Sons Co., Philadelphia, Pa., has established the Pine Tree Co. as a subsidiary in Dahlonega, Ga. The new subsidiary is a small spinning unit that will supply the Lees tufting department.



WARP DRAWING MACHINE DRAWS DROP WIRES, HEDDLES, AND REED IN ONE OPERATION

Write for new
USERS LIST



On a Barber-Colman Warp Drawing Machine, at each stroke of the needle a thread is drawn through the correct selection of drop wire, heddle, and reed dent. This correct selection is made accurately and automatically for each pick by a sequence of mechanical motions controlled by a pattern strip punched in accordance with the designer's draft. Users of the machine are enthusiastic, saying such things as "pays for itself in two years", "gets samples on the loom quickly", "high sley satin warps drawn in 5½ hours instead of 48 hours", "makes style changes rapidly", "saving more than $22 per warp", and the like. Let your Barber-Colman representative look into *your* situation — perhaps he can suggest an installation that could increase production, improve the products, and lower costs.

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SYNTHETIC MILLS

Aberfoyle Mfg. Co., Philadelphia, Pa., plans to expand production of Aberlon, its new high-bulk Orlon acrylic fiber yarn. New equipment will be installed for the production of nylon yarn.

Burkyarns Inc., Valdese, N. C., recently increased its capital stock from $150,000 to $500,000. An expansion program is planned that will include additional construction and equipment.

Burlington Industries, Greensboro, N. C., is making additions and renovations in its Plant No. 1, Gastonia, N. C. Cost is estimated at $285,775.

Neely Cotton Mills, York, S. C., is now spinning Acrilan acrylic fiber. Capacity is expected to reach 35,000 lbs. a week.

Peltoma Mills, Pittsfield, Me., is the new name for directors of the group known as Pittsfield Development Associates. This is part of a plan being worked out with Textron American, Inc., in connection with the latter's pilot mill to be constructed here.

Standard Yarn Mills, Inc., Glendale, N. Y., is nearing completion of its new plant at 6205 30th Ave., Woodside, N. Y.

J. P. Stevens & Co. Inc., Gastonia, N. C., is installing Dixon Saddle Guides on 80 spinning frames.

Textron American, Inc., will construct a 400,000-sq.-ft. mill at Barnwell, S. C. The plant will be completely integrated with spinning, weaving, dyeing and finishing all housed under one roof. Daniel Construction Co. is the contractor; Lockwood Greene Engineers, Inc., is the architect; Barnes Textile Associates, Inc., is the technical advisor.

KNITTING MILLS

Alamac Knitting Mills, Indian Orchard, Mass., has purchased Valhalla Mills, Boonton, N. J. Alamac will expand its production of staple and novelty tricot fabrics, and will also produce pile fabric.

Alba Hosiery Mills, Valdese, N. C., has started a $750,000 machinery-modernization program. New 400-needle machines to produce women's seamless stockings and men's argyle socks will be installed.

Cadillac Hosiery Mills Ltd., Montreal, Que., has completed installation of a 51-gauge 30-section fully automatic hosiery knitting machine. Full production of 25,000 pairs of full-fashioned nylon hosiery weekly is being attained. The company plans to purchase a new Reading 60-gauge, 100-course knitting machine. When in production, total plant output is expected to reach 29,000 prs. weekly.

Craftspun Yarns, Inc., Kings Mountain, N. C., has started plant operations on two knitting machines. Of the two Cidega knitting machines, one will be used in the pilot operations for making net curtains. The other will be used in experiments to produce one or more of the estimated 25 types of production available from the machine.

Davenport Hosiery Mills, Inc., Chattanooga, Tenn., is constructing a $1,000,000 hosiery plant in Ellijay, Ga. The new plant will make seamless stockings.

Gentilly Knitting Mills, Inc., Gentilly, Que., is planning to build a 40x60-ft. two-story mill located on Route No. 3, Gentilly. The building will be of concrete block and brick construction.

La Be Dean Hosiery Co., Concord, N. C., has obtained a corporate charter from the North Carolina Secretary of State. Authorized capital is $100,000. Incorporators are W. C. Peurifoy, Jr., W. M. Nixon, and Nadine C. Nixon, all of Concord.

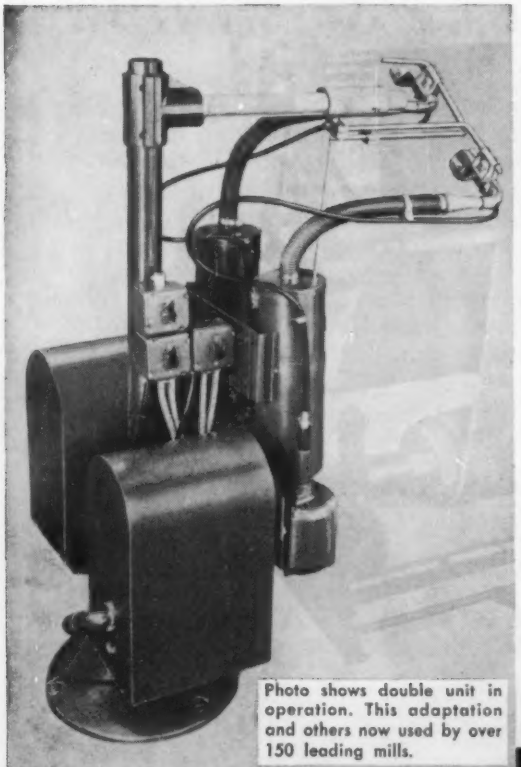

Photo shows double unit in operation. This adaptation and others now used by over 150 leading mills.

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Here is how Coats & Clark feel about the Cleveland Tramrail installation, as expressed in a letter from Mr. L. P. Greer, Jr., Chief Engineer, to Mr. J. C. Wilkins of Cleveland Tramrail Atlanta Company:

"There comes a time on a job when one must sit down and take stock of those who deserve praise and recognition for their efforts in making the job successful. During the course of this job, it has been extremely satisfying to have dealt with you and Cleveland Tramrail on the overhead crane handling system. I wish to extend to you my sincerest thanks for a job well done."

One of five 2-ton, 37'-4" long completely motorized Cleveland Tramrail cranes at Coats & Clark, Inc., Toccoa, Georgia. Speeds: Crane travel 150 fpm, carrier travel 75 fpm, hoist 6 and 20 fpm. Safe electrification is obtained by use of Cleveland Tramrail SAFPOWRBAR conductors.

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CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

Modern Globe, Inc., Grand Rapids, Mich., has been purchased by Athena Sales Co., New York, N. Y.

Monarch Knitting Co. Ltd., Dunnville, Ont., has installed new spinning machinery.

Propper-McCallum Hosiery Co., Northampton, Mass., has been purchased by the National Felt Co., Easthampton, Mass., for $90,000.

Ragan Knitting Co., Thomasville, N. C., is constructing an addition to expand its present facilities. Completion is expected by the end of July.

Reaco Hosiery Mill, Hickory, N. C. is constructing a new 50x90-ft. brick and steel building. Seventy-five knitting machines will be installed. Men's cotton hosiery will be produced in the gray.

Shelly Knitting Mills, Inc., Philadelphia, Pa., has expanded its production facilities with the addition of new fine-gauge circular knitting machines and eight new 16½-cut TAI jacquard circular knitting machines. An additional 12,000 sq. ft. of space has been acquired to give the firm 27,000 sq. ft. of space on the second and third floors. New sewing, looping, and pressing equipment has also been added.

Van Raalte Co., Inc., New York, N. Y., has purchased a 50% interest in a new plant being completed at Casalnuovo, near Naples, Italy, for the production of underwear, hosiery and gloves.

DYEING AND FINISHING PLANTS

Apponaug Co., Apponaug, R. I., has received a permit to build an addition and make alterations, costing $6,000.

Atlantic Dyeing Corp., Glendale, N. Y., has been established for the piece-dyeing of synthetics.

Fastex Printing & Dyeing Corp. has been organized by Harry Levy to operate in part of the former plant of U. S. Finishing Co., Sterling, Conn. The new firm will begin operations in the printing field and later expand into dyeing and finishing.

Greenville Finishing Co., Inc., Greenville, R. I., has been purchased by James Garside, Louis L. Croland, and Herman H. Croland. New owners plan to modernize and expand the plant, particularly for dyeing and finishing cottons.

LaFrance Industries, Pendleton, S. C., has started construction of a $100,00 addition to its dye plant. The project will add about 100,000 sq. ft. of floor space. Daniel Construction Co., Greenville, S. C., is the contractor.

Ramapo Piece Dye Works, Sloatsburg, N. Y., has purchased the property of the Julius Kayser mill at Walton, N. Y.

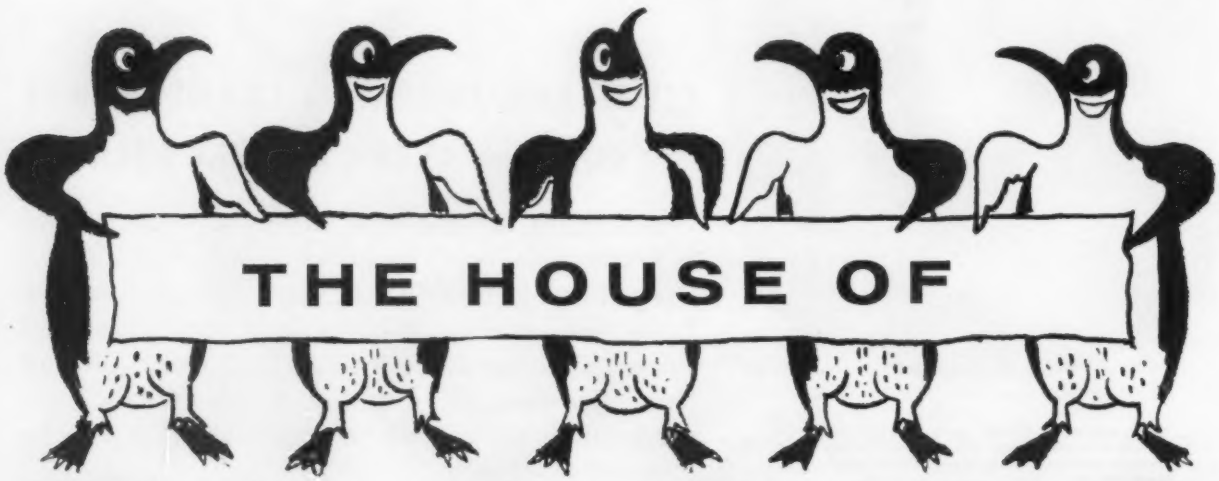
MISCELLANEOUS MILLS

Felt Mills, Inc., Barnwell, S. C., will begin work soon on a 40,000-sq.-ft. plant.

FOREIGN MILLS

Boger & Crawford, Philadelphia, Pa., has been authorized by the Chilean Government to install a cotton spinning mill at Valparaiso, which calls for a $5,000,000 investment. Boger & Crawford will invest $3,000,000 in machinery and equipment for the mill and $2,000,000 for development activities. It must export 60% of its production and invest the foreign exchange thus obtained to bring into Chile the necessary raw materials.

Cia. Industrial Guindy, San Bartolo Naucalpan, Mexico, is manufacturing textiles from domestic rayon and acetate fibers. The plant covers an 11,000-sq.-meter area and is equipped with more than 300 automatic looms. Additional looms will be installed.



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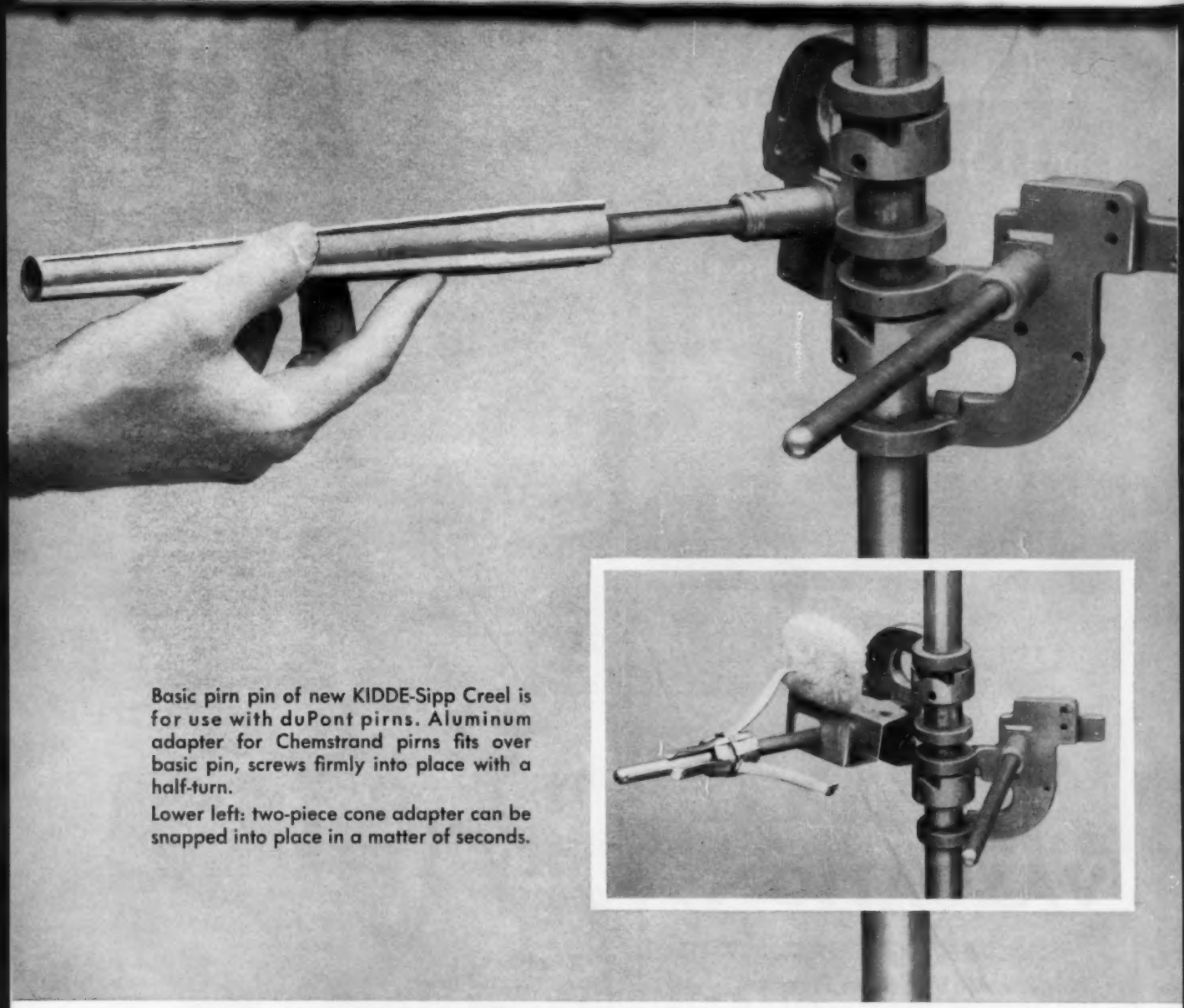

Basic pirn pin of new KIDDE-Sipp Creel is for use with duPont pirns. Aluminum adapter for Chemstrand pirns fits over basic pin, screws firmly into place with a half-turn.

Lower left: two-piece cone adapter can be snapped into place in a matter of seconds.

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Basic creels are fitted with pirn holders for the 12" duPont pirn. Adapters for Chemstrand pirns, or for cones, spools and tubes can be added and fastened securely. Change-overs are easy and quick.

The new creels have plated pins with aluminum arms and adapters. Painting is eliminated . . . no rust can get on your yarn.

KIDDE-Sipp creels are available with inside, outside or vertical yarn delivery . . . with washer, post, or pulley tensions and with Kidde tension compensators. All are available with stop motions and with annunciator lights if desired. Write for further information to . . .

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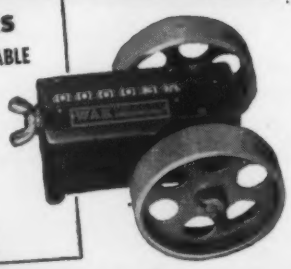

WAK INDUSTRIES CHARLOTTE, NORTH CAROLINA

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NEWS about MEN

K. D. Bailey has been named president and general manager of Riverside Silk Mills Ltd., Toronto, Ont.

R. J. Baker, D. M. Deacon, and **J. S. Deacon** have been elected directors of Riverside Silk Mills, Galt, Ont.

John G. Bannister has been elected president of National Automotive Fibres, Inc., Detroit, Mich.

Charles Barrett has been promoted to vice president in charge of manufacturing at Dominion Woolens & Worsteds Ltd., Toronto, Ont.

Paul A. Bonsaint has been named manager of Rock Ridge Worsted Mills, Centreville, R. I.

Ronald R. Boyd, Alfred H. Grant, E. H. Hines, and **George L. Staff** have been elected vice presidents of Amerotron Corp., New York, N. Y. Mr. Boyd has also been elected to the board of directors.

Thomas D. Bruce has been named manager of the Dublin, Ga., plant of J. P. Stevens & Co., Inc.

Alfred Buckley and **Robert P. Holding** have been elected to the board of Textron American, Inc., Providence, R. I.

Marion Collins has been named vice president of Riverside Mills, Augusta, Ga. He succeeds **Ira A. Stone,** retired.

Rene De Lathauwer has been appointed superintendent of the M.&F. Worsted Co., Providence, R. I.

W. R. Fiske has resigned as superintendent of the McCormack Spinning Mill, McCormack, S. C., to return to Dan River Mills, Danville, Va.

Everett W. Gammage has been elected a vice president of Paragon Worsted Co., Providence, R. I. **Lionel Jarvis** has been appointed assistant manager.

Philip Goldsmith has been named president of Julius Kayser & Co. Ltd., Sherbrooke, Que. This appointment is in addition to Mr. Goldsmith's present duties as president of Julius Kayser & Co., New York, N. Y.

Marshall Gregory has been named president of Interwoven Stocking Co., New Brunswick, N. J.

C. D. Griggs has been named director of finishing at the Cooleemee, N. C., plant of Erwin Mills. Other promotions are: **C. W. Howell,** to manager of Mill No. 3; **W. R. Wands,** to manager of the finishing plant; **M. A. Carpenter,** to superintendent of Mill No. 3; **A. J. Tokarz,** to superintendent of the finishing plant.

R. Philip Hanes, Jr., and **J. R. Durham, Jr.,** have been elected to the board of Hanes Dye & Finishing Co., Winston-Salem, N. C.

Robert A. Harris has been elected secretary and treasurer of Fieldcrest Mills, Inc., Spray, N. C. **W. B. Lucas** has been named assistant secretary.

Tom Harrison has been named superintendent of the second shift at the Textron American, Inc., plant at Clarksville, Va.

Mervin R. Haskel has been elected executive vice president of United Merchants & Manufacturers, Inc., New York,

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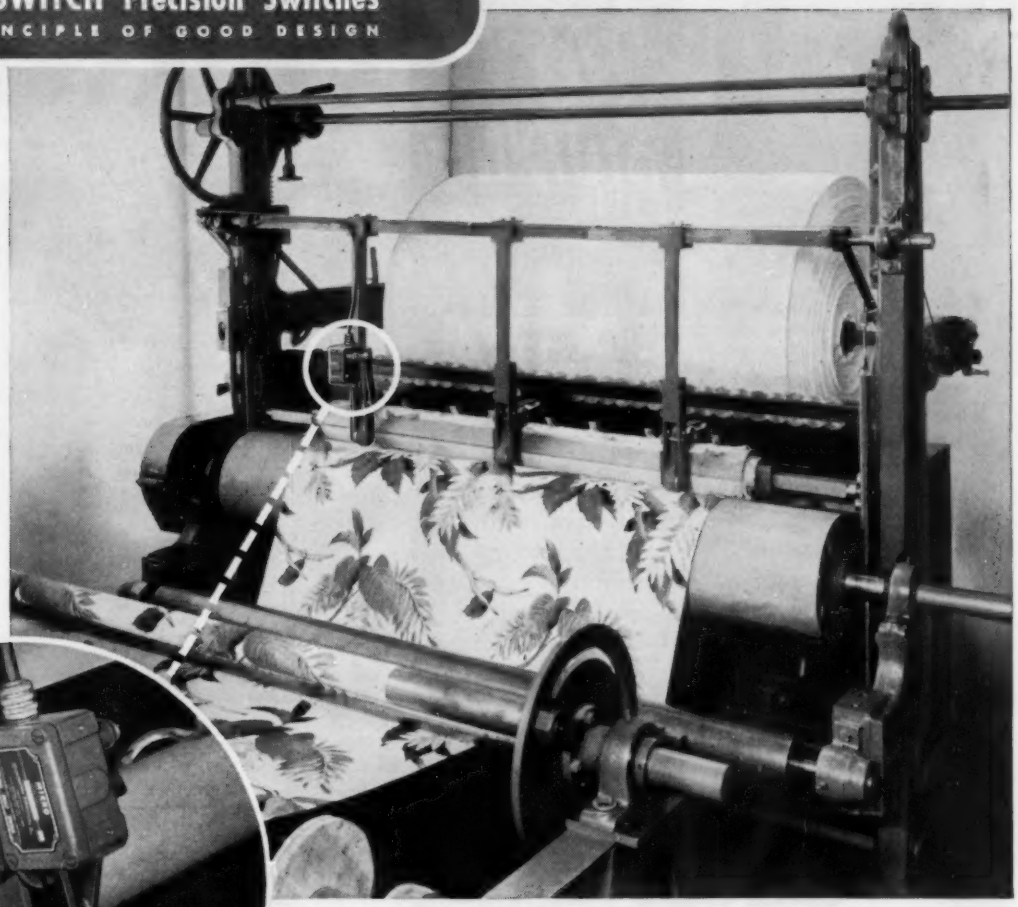
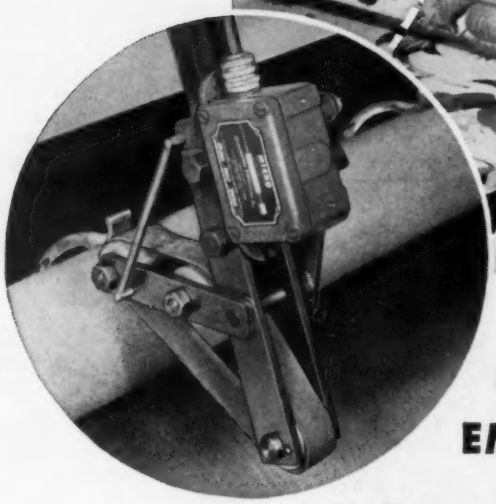
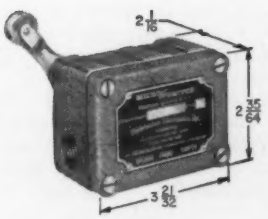
A PRINCIPLE OF GOOD DESIGN



Overall view of EMCO Rotary Cutter Winder. (Inset) This switch operates to control raising and lowering of the cutter frame.



3 switches help assure safe and automatic operation of this EMCO Rotary Cutter Winder



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NEWS ABOUT MEN Continued

N. Y. **Martin J. Schwab** has been elected treasurer and a director. **Harold Rosner** and **Lawrence Marx, Jr.,** have also been named directors.

Henry Hellman and **Harold Welburn** have been elected vice presidents of United Piece Dye Works, Lodi, N. J.

Jesse M. Jackson has been named general manager and assistant treasurer of Laurens Mills, Laurens, S. C. He succeeds **George Asnip,** who has been named general manager of the worsted division.

Louis L. Jones has been named chairman of the executive committee of Canton Cotton Mills, Canton, Ga. **Louis L. Jones, Jr.,** has been named president. **Floyd D. Cooper** has been named controller and assistant treasurer.

Maurice Levin has been named chairman of the board of Columbia Mills, Inc., Minetto, N. Y. Others elected are: **Edward F. O'Reilly,** president; **H. E. Wilkins,** vice president in charge of production; **F. J. Sliney,** vice president in charge of sales; **R. A. Harper,** vice president in charge of fabrics and finishes; **James A. Reynolds,** secretary; **E. L. Saga,** treasurer and comptroller.

Robert A. Liner has been named superintendent of the Greenwood Plant of Greenwood Mills, Greenwood, S. C. He succeeds **J. T. Ficklin.**

Henry C. Lumpkin has been elected vice president and general manager of Printed Fabrics Corp., Carrollton, Ga., succeeding **Paul W. Kase,** resigned. **John Hennessey** has been named technical assistant to Mr. Lumpkin.

Duncan MacDonald has been named manager of Leaksville Woolen Mills, Charlotte, N. C.

Alex McCance has been appointed assistant general production manager of Manchester Hosiery Mills, Manchester, N. H.

Duncan McDonald has been named a vice president at Leaksville Woolen Mills, Charlotte, N. C. **Sell Culp** has been named treasurer.

Howard R. Medici has been elected president of the Visking Corp., N. Little Rock, Ark. He succeeds the late **J. Paul Smith.**

Macon P. Miller has been named director of industrial relations at Sidney Blumenthal & Co., Inc., Rocky Mount, N. C. Mr. Miller was formerly director of industrial and public relations at Fieldcrest Mills, Inc., Spray, N. C.

K. C. Mills has been named special assistant to the manufacturing manager of Dominion Textile Co. Ltd., Montreal, Que. **Raymond Charlebois** has been named superintendent of the Sherbrooke, Que., mill and **P. E. Malo** has been named superintendent of the Mount Royal mill, Montreal, Que.

Cobb Milner has been elected president of the Elmore Corp., Spindale, N. C. **Henry Stokes** has been named executive vice president.

Walter J. Mooney, Jr., has been elected president of Ballston-Stillwater Knitting Co., Ballston Spa, N. Y. He succeeds his father, the late **Walter J. Mooney.**

J. A. Murphy has been named superintendent of manufacturing at Chatham Mfg. Co., Elkin, N. C. He succeeds **H. H. Barker.**

A. Louis Oresman has been elected president of Catalina, Inc., Los Angeles, Calif. He will be located in New York, N. Y., where he will continue as an executive partner in the accounting firm of Aronson & Oresman.

Herman D. Ruhm, Jr., has been appointed president of Burlington Industries, Inc., New York, N. Y.

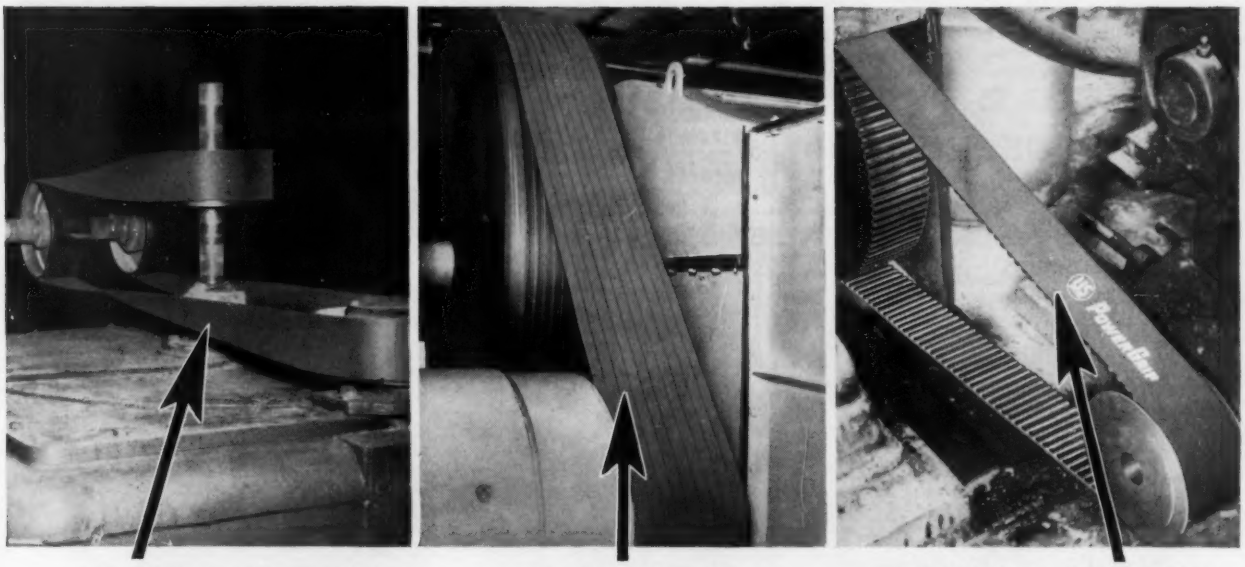
Thomas B. Sain, Charles E. Crutchfield, Grover C. Furr, Sr., and **Joseph P. Kelly** have been named vice presidents of Burlington Hosiery Co., Greensboro, N. C.

Roger D. Smith has been named plant manager at Slingsby Mfg. Co., Brantford, Ont.

Harold C. Stanfield has been named manager of the Converting Dept. of West Point Mfg. Co., West Point, Ga.

Edward F. Starke has been named assistant to **Percy Meek-**

INSTANT SUPPLY!



A Coast-to-Coast Chain of Warehouses

"U.S." is really geared to deliver. You actually get *immediate* delivery or shipment—thanks to your local "U.S." distributor backed by the strategically located District Sales Offices and transcontinental chain of warehouses. The "U.S." Transmission Line includes flat belts and belting, V-belts, sheaves, and PowerGrip "Timing" Belts and Pulleys for any power transmission need.

"U.S." engineers will study your needs for any specialized drives. See one of our selected distributors or contact any of our 27 District Sales Offices or write address below.

A COMPLETE DRIVE SERVICE

Multiple V-Belts • F.H.P. V-Belts • SHEAVES •

FLAT BELTS AND BELTING

SPECIAL PURPOSE BELTS

PowerGrip **"TIMING" Belts and Pulleys**

"U.S." Research perfects it...

"U.S." Production builds it...

U.S. Industry depends on it.

US RUBBER

UNITED STATES RUBBER COMPANY

• MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

Hose • Belting • Expansion Joints • Rubber-to-metal Products • Oil Field Specialties • Plastic Pipe and Fittings • Grinding Wheels • Packings • Tapes Molded and Extruded Rubber and Plastic Products • Protective Linings and Coatings • Conductive Rubber • Adhesives • Roll Coverings • Mats and Matting

COOL any building from the ROOF

effectively, efficiently, economically

Everyone knows how the sun, beating down on the roof of a building, descends into the interior. Even with insulation, this imposes a big load on air conditioning.

Roof cooling is the answer. It can be used on any roof to keep the building cooler and save air conditioning costs. Best equipment for the job is Ruppright's Rotary Roof Cooler. Easily installed, it produces a thin film of water on the roof. This film evaporates but is continuously renewed by the slowly-rotating cooler making the roof cooler than the air.

RUPPRIGHT'S ROTARY ROOF COOLER

Box 6795-TW, Los Angeles 22, Cal.

WRITE FOR FREE FOLDERS

INDUSTRIAL ENGINEERS

SPECIALIZING IN TEXTILES FOR OVER ONE-THIRD OF A CENTURY

PAYROLL CONTROLS
WORK LOAD STUDIES
COST REDUCTION REPORTS
COST SYSTEMS SPECIAL REPORTS

RALPH E. LOPER CO.

GREENVILLE, S. C. FALL RIVER, MASS.

elty Yarns

Any construction to your specifications using any fiber for Men's Wear, Dress Goods, Upholstery, Draperies, Automotive, and so on. Twists, Boucles, Ratines, Knots, Nubs ——

Neva-Tarn

etallic Yarns

Non Tarnishing Metallics, all constructions of supported yarns on disposable tubes or cones for Knitting and Weaving into all types of fabrics. Additionally — Metallics combined with Novelties.

THE **ontgomery** COMPANY

EST. 1871

15 CANAL BANK WINDSOR LOCKS, CONN.
Phone: Windsor Locks, Conn. NAtional 3-3338

The **Kuljian** *Corporation*

RAYON PLANTS & TEXTILE MILLS

KULJIAN

- DESIGN
- CONSTRUCTION
- MANAGEMENT

1200 N. BROAD ST., PHILA. 21, PA.

MEXICO CITY • CARACAS • MADRID •
ROME • ATHENS • TOKYO • CALCUTTA

NEWS ABOUT MEN Continued

er, vice president of the Bishopville Finishing Div. of Reeves Bros., Inc., Bishopville, S. C.

Richard C. Stidston has retired as vice president and director of Limerick Yarn Mills, Manchester, N. H.

Emil Teghtmeier has been named weaving overseer at Angus Park Woolen Co., Hanover, Conn.

Thomas S. Tolar has been elected a vice president of Burlington Industries, Inc., Greensboro, N. C.

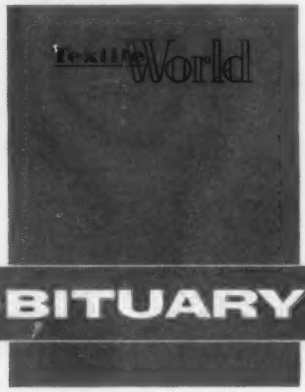
Robert H. Vaughan has been elected assistant secretary of Washington Mills Co., Mayodan, N. C.

W. Lane Verlenden has been elected assistant treasurer of Standard - Coosa - Thatcher Co., Chattanooga, Tenn.

David Vipperman has been named divisional superintendent of the new Greer division of the Rock Hill Printing & Finishing Co., Rock Hill, S. C.

W. T. White, O.B.E., has been named to the board of Stanfields Ltd., Truro, N. S.

Harold E. Williams has been named controller of American Thread Co., New York, N. Y.



OBITUARY

Charles L. Beaudrot, 73, secretary of Abney Mills, Greenwood, S. C.

Edward Emmers, Jr., 61, chairman of the board of E-Cut Knitting Mills, Royersford, Pa.

Walter E. Hayward, 77, retired president of Hayward Hosiery Co., Ipswich, Mass.

Howard R. Huston, 62, retired vice president and director of American Cyanamid Co., New York, N. Y.

Russell H. Kent, 63, assistant treasurer and a director of Kent Mfg. Co., Clifton Heights, Pa.

Arthur A. Kohli, 60, foreman of the weave room and warp room of Fairfield & Sons, Preston, Ont.

Charles E. Martin, 86, retired secretary-treasurer of Ohio Falls Dye & Finishing Works, Louisville, Ky.

Chandler Robbins II, 48, an assistant to the president of Bates Mfg. Co., Lewiston, Me.

Jonas G. Rosenberg, 64, founder and president of Mayburn Knitting Mills, Hoboken, N. J.

James C. Self, 79, president of Greenwood Mills, Greenwood, S. C.

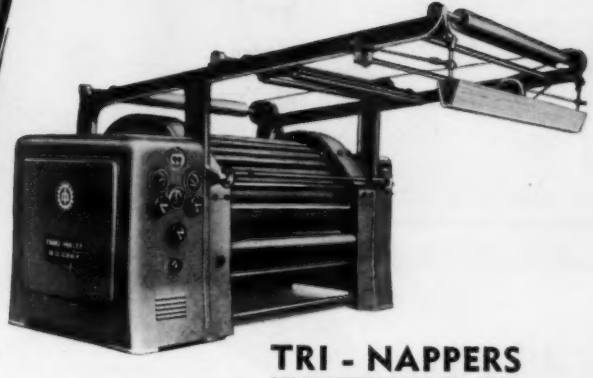
Marion E. Slayton, 45, supervisor of Republic Cotton Mills, Great Falls, S. C.

G. Raymond Stafford, 49, superintendent of Camp & McInnes Hosiery Co., Reading, Pa.

J. Newton Stork, 49, secretary-treasurer of H. K. Stork Co., Adamstown, Pa.

Clifford J. Swift, 72, chairman of the board of Swift Spinning Mills, Columbus, Ga.

Christian A. Wiessner, 57, vice president and technical advisor for Amerotron, Inc., Boston, Mass.



TRI - NAPPERS

are superior

Ask to see this new high production napper in operation.

Also investigate our complete machinery and equipment for cutting and brushing of:

CORDUROY - VELVETEEN - SUEDES

Agents: for Southern States Messrs. PARROTT & BALLENTINE, Greenville, S. C., 510 South Carolina National Bank Building for Northern States:

TEXTILE MACHINERY IMPORT CO., 277 North Ave., New Rochelle, N. Y.

FRANZ MÜLLER

MASCHINENFABRIK · M.-GLADBACH ·

ELECTRIC STOP MOTIONS

"WESCO" TOPS THE WORLD'S BEST KNITTING MACHINES

FOR UNDERWEAR OUTERWEAR HOSIERY

PRODUCTION WISE - IT'S WESCO

USED ON ALL THESE KNITTING MACHINES:

Bentley	Edmos	Mellor, Bromley	Stibbe
Blackburn	Fidelity	Ordnance Gauge	Supreme
Brinton	Jacquard	Precision Knitters	Tompkins Bros.
Cooper	Lamb	Scott & Williams	Wildman
Crane	Leighton	Stafford & Holt	Wildt

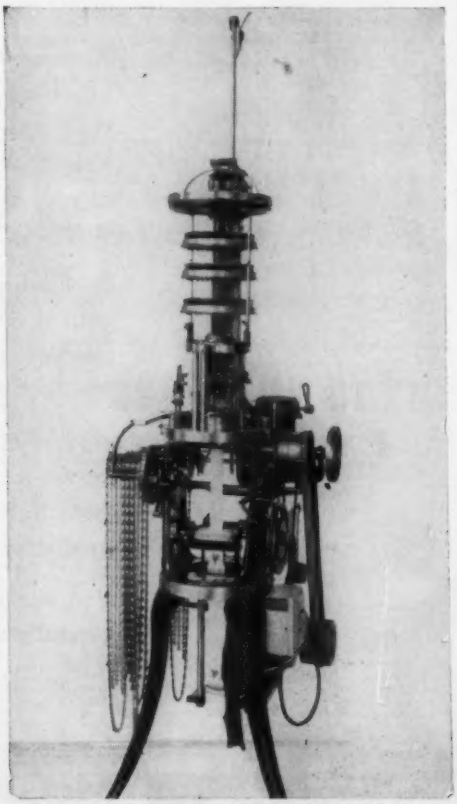
Team work that pays off in greater profits, by increasing production (on any machine) through the elimination of unnecessary press-offs, knitting breakdowns, broken needles and wasted yarns. Always *specify Wesco Stop Motions* for trouble free production.

SOMETIMES IMITATED—NEVER EQUALLED

STOP-MOTION DEVICES CORPORATION

1471-77 Fulton St. Brooklyn 16, N.Y.

Another of a Series of Knitting Machine builders. Others to follow



Standard Equipment—FIDELITY MACHINE CO. Model S-49G, Multi-Design Ribber

How to keep informed on the "with what" part of your business

AT YOUR FINGER TIPS, issue after issue, is one of your richest veins of job information – advertising. You might call it the "with what" type – which dovetails the "how" of the editorial pages. Easy to read, talking your language, geared specifically to the betterment of your business, this is the kind of practical data which may well help you do a job quicker, better – save your company money.

Each advertiser is obviously doing his level best to give you helpful information. By showing, through the advertising pages, how his product or service can benefit *you* and *your* company, he is taking *his* most efficient way toward a sale.

Add up all the advertisers and you've got a gold mine of current, on-the-job information. Yours for the reading are a wealth of data and facts on the very latest in products, services, tools . . . product developments, materials, processes, methods.

You, too, have a big stake in the advertising pages. Read them regularly, carefully to keep job-informed on the "with what" part of your business.

McGRAW-HILL FOR BUSINESS

McGRAW-HILL PUBLICATIONS

EMPLOYMENT OPPORTUNITIES

The Advertisements in this section include all employment opportunities—executive, management, technical, selling, office, skilled, manual, etc.

Positions Vacant
Positions Wanted
Part Time Work
Civil Service Opportunities
Selling Opportunities Wanted
Selling Opportunities Offered
Employment Agencies
Employment Services
Labor Bureaus

RATES

DISPLAYED

The advertising rate is $14.85 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

An advertising inch is measured ⅞" vertically on a column—3 columns—30 inches to a page.

Subject to Agency Commission.

UNDISPLAYED

$1.20 per line, minimum 3 lines. To figure advance payment count 5 average words as a line.

Box Numbers—counts as 1 line.

Discount of 10% if full payment is made in advance for 4 consecutive insertions.

Not subject to Agency Commission.

Send NEW ADS to TEXTILE WORLD, 330 W. 42nd St., N. Y. 36, N. Y. for September issue closing August 18th

ASSISTANT MANAGER

Wanted, young man, between 30 and 35 years of age, to train to become manager of a yarn mill. The man we are looking for must have textile school training and be presently employed in a spinning mill producing carded, combed and blended yarns for the hosiery and weaving trade. Spinning worsted on the American system desirable but not absolutely essential. Please reply giving full information and details as to experience, age, etc. Replies will be held in strictest confidence. Mill located in Ontario.

P-6714, Textile World
330 W. 42 St., New York 36, N. Y.

LABORATORY TECHNICIAN

capable of developmental and evaluation work in vinyl and waterproof coatings. Southeastern location.

P-6973, Textile World
330 W. 42 St., New York 36, N. Y.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)
LOS ANGELES: 1111 Wilshire Blvd. (17)

POSITIONS VACANT

Position Open: Textile engineer or mechanical engineer with experience in textiles. College graduate between the age of 25 and 35. Large North Carolina company. Opportunities for advancement. Write P-7140, ,Textile World.

Wanted: Master mechanic for large N. C. textile company. Age 30-45, high school graduate with the equivalent of 2 years trade school training. Must know electricity and boiler plants and have had experience supervising machine shop and maintenance crews. Write P-6911, Textile World.

POSITIONS WANTED

Pile fabric mill supt with 30 years experience in the trade seeks position as supt. or as technician in experimental and/or sample dept. Have styled furniture cloth with sales dept. cooperation. Knows weave formation and set-up. Experienced buyer. Now employed. Minimum 30 days notice required. Reply PW-6525, Textile World.

Textile Technician young Swiss working in silk twisting factory in South America with crep up-twisting frames, twisting and doubling machines for fancy yarn in silk, rayon, rayon staple, wool and cotton looks for similar position. PW-6985, Textile World.

Throwster, Supt. or manager—twenty five years experience. Quality throwing of all fibers for all trades. Knowledge of modern methods excellent references. Willing to relocate. PW-7153, Textile World.

ENERGETIC AND VERSATILE YOUNG (31) MAN

Seeks position with knitting firm in domestic or foreign markets. Tricot and Raschel manufacturing and sales background. Extensive knowledge and experience in foreign markets. Recently returned from South American sales tour. Fluent French, Italian, Spanish, German, some Portuguese. South American sales tour.

PW-7019, Textile World
330 W. 42 St., New York 36, N. Y.

CHEMISTS

1. PhD in organic chemistry or MS with 1 to 2 years research experience, preferably in polymers. For research related to the synthesis and application of chemical compounds connected with durable finishes for synthetic fabrics.

2. PhD or equivalent in physical chemistry, 5 to 8 years experience, some of which should have been in fiber research. To assist in planning and coordinating problems in basic fiber research covering relationship of molecular and micro structure to mechanical, thermal and other physical properties.

3. MS or PhD in physical, or in organic chemistry with strong physical background, 0 to 5 years experience. For fundamental studies on cellulose and its derivatives and in development of manufacturing processes for cellulose derivatives.

The diversity of the Celanese Corporation activities in chemicals, textiles and plastics . . . the continuing growth and expansion of the organization . . . provide opportunities for qualified men in the Research Laboratories in Summit, New Jersey, a pleasant residential community within 30 miles of metropolitan New York City.

Please submit resumes, including salary desired, to J. A. Berg.

Celanese CORPORATION OF AMERICA
Morris Court Summit, New Jersey

PROJECT ENGINEER

. . . with mechanical engineering ability, for development and project work in the Wool Textile industry. Some drafting experience necessary. Challenging and interesting position with progressive organization located in the Phila. area. Good opportunity for future advancement. Write full particulars including age, background & previous experience to—

G-81, P. O. BOX 3552
PHILA. 22, PA.

WANTED

Good experienced warp dresser on fancy woolens. Good pay and good future for a man who is ambitious and aggressive.

ROCK RIVER WOOLEN MILLS
Janesville, Wisconsin

POSITIONS OPEN

We can place—MANAGER southern cot. mill; mgr. bleachery—print works (So. Am.); mgr. wstd. cloth mill; woolen yarn supt.; maintenance supt.; asst. supt. woolen cloth mill; jacquard silk designer; worsted, w/n. and cot. designers.

OVERSEERS FOR—w/n. picking; wstd. comb.; braiding; fulling; piece goods dyeing; hosiery dyeing; sewing knit. goods; dye. and finish. elastic goods; wool scouring; corduroy finish.

SECOND HANDS FOR—w/n. dress.; cot. weav.; French comb. and card.; dyeing pile fabrics.

CHEMISTS; plant engineers; salesmen (several); cloth salesman trainee (N.Y. City); industrial-time study engineers; cost accountants; knit. mach. fixers; loom fixers; mule fixers.

If you are available for a good paying position in the textile field, it will pay you to have your application in our files. We are receiving more inquiries and placing more men than for several months. Negotiations are confidential. No fee to be paid unless you accept employment through our Service.

CHARLES P. RAYMOND SERVICE, INC.
294 Washington St. Boston 8, Mass.
Phone: Liberty 2-6547.
Over 55 Years In Business

FOR SALE EXCLUSIVELY
By
DUNN CORPORATION
Machinery offered at
ROCKFORD TEXTILE MILLS, Inc.
ROCKFORD, ILLINOIS
Our representative at mill.

1 Complete Benoit Picking System
1 D & F, 3 cylinder, T-slot arch, 60 x 60 card with Peralta
2 D & F, 3 cylinder, 60 x 60, all iron cards, complete with chain drive on all workers and Peraltas
Also extra 60" Bramwell super card feeds
1 D & F Wollen Twister, 128 spindle, 7½" gauge
1 Universal, 80 spindle, Roto Coner, Model 44, with steel carriers
1 Almost new, Barber-Coleman, Warper Creel, 432 live ends. Additional specifications on request
24 C & K, W-3, 92" looms, motor driven, with 1 shot lubrication
1 Foster Model 102, 50 spindle, cone winder
4 C & K, W-3 (Convertible type with parts), 82" looms, motor drive. 1 shot lubrication
1 James Hunter cloth dryer, 72" wide, year 1948, with controls
1 Proctor & Schwartz cloth carbonizer with acid tank and squeeze rolls
1 James Hunter squeeze rolls, 72" wide, hydraulic, 1945
1 60" Abington card stripping system, complete with tanks, compressor, motor. Year 1948
1 Cook Detwister with reversing switch, late type
5 Duesberg-Bosson 60" Peraltas
5 60" Center Drawer Feeds, almost new

AND THESE OUTSTANDING 14 SPECIALS

1—Cleveland overhead tram-rail and carrier HEL-6020A with 3 ton electric hoist.
1—Venango stainless steel stock dyeing machine 300 lb capacity with tank, pump, motor and temperature control Year 1947.
1—Venango stainless steel stock dyeing machine 100 lb. capacity with tank, pump, motor and temperature control Year 1947.
2—Venango stainless steel stock dyeing machines 500 lb capacity with tank, pump, motor and temperature controls, Year 1947.
1—Venango stainless steel high pressure stock dyeing machine, 500 lb. capacity pressurized for temperatures of 250-300 degree with ejection tank and sampling compartment. Year 1950.
1—Smith Drum dyeing machines, 50 lbs. capacity with 3 compartments and motor. Year 1947.
2—Smith Drum Monel dyeing machines, 200 lbs with 4 compartments and motor Year 1947.
1—Franklin aluminum dyeing machine 250 lbs capacity with tank pump, motor and temperature control.
1—175 gallon stainless steel mixing tank.
1—Sargent wool drying unit complete with feeds, squeeze rolls, automatic heat control, and motors and fans. Year 1945.
1—Budgit electric hoist ½ ton capacity.
1—D & F sample card with motor.

PARTIAL LIST ONLY
ABOVE OFFERED SUBJECT TO PRIOR SALE OR WITHDRAWAL

DUNN CORPORATION

Mailing Address
P O Box 276
Providence, R.I. EA 1-7410

Offices located at
172 Taunton Ave.
East Providence, R.I.

BIALEK'S BEST BUYS

68—C&K, C-4, 80" R.S., 4x1 AUTO. CONV. TO 4x4, DOBBY, 24" FLANGE BEAMS, COMPLETELY EQUIPPED; YEAR 1950.

1—SIPP 101" HI-SPEED, ALL-METAL WARPER WITH SIPP MAGAZINE CONE CREEL.

96—SPINDLES, WHITIN AUTO. QUILLER.

48—C&K, S-6, 56" R-5; 2x1 AUTO, DOBBY, COMPLETELY EQUIPPED. 1949.

1—JOHNSON SILK SYSTEM SLASHER, 74"x30", 7 DRUM S.S. WITH TEFLON.

20—C&K, 4x4, GEM HEAD, 72", 3-ATWOOD 10B, 2 LB. PACKAGE.

THEODORE BIALEK & CO.

6704 EMPIRE STATE BLDG
NEW YORK 1, N. Y.
Longacre 3-4978

JACKSON AT 20th AVE
PATERSON, N. J.
Lambert 3-5886

SEARCHLIGHT SECTION
(Classified Advertising)

BUSINESS OPPORTUNITIES

EQUIPMENT - USED or RESALE

UNDISPLAYED RATE

$1.20 a line, minimum 3 lines. To figure advance payment count 5 average words as a line.

PROPOSALS, $1.20 a line an insertion.

BOX NUMBERS count as one line additional in undisplayed ads.

DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

DISPLAYED RATE

The advertising rate is $12.65 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches to a page.

EQUIPMENT WANTED or FOR SALE ADVERTISEMENTS acceptable only in Displayed Style.

Send NEW ADVERTISEMENTS to N. Y. Office, 330 W. 42nd St., N. Y. 36, N. Y. for September Issue Closing August 18th

SPECIAL SERVICES

Our Textile consultant will cheerfully dye for you. He's a master in all phases of the wet processing of textiles—scouring, wetting, mercerizing, bleaching, dyeing, stripping, sizing, finishing, softening, weighting, waterprooofing and mildewprooofing. He's yours for the asking on a project or per diem basis. Research and Developing Corporation, 21 East Van Buren St., Chicago 5, Ill.

DEEP ANODIZING of ALUMINUM

for maximum protection against wear & corrosion

...on a custom service basis, applied to your parts. Tubes, rods, extrusions, wire and other finished products also supplied. Consult us!

We do Alumiliting—plain or colored

LUSTRIK* T.M. Reg. INCORPORATED

3235 FRANKFORD AVENUE • PHILA. 34, PA.

PROFESSIONAL SERVICES

PATENTS

Information concerning procedure furnished upon request, without obligation.

B. P. FISHBURNE
REGISTERED PATENT ATTORNEY
703A McLachlen Bldg. Washington 1, D. C.

20—1948 20 OZ ATWOOD 10-B
DOUBLER TWISTERS

4½" ring. 6" gauge. 8" traverse. All aluminum bobbins. Machines individually motorized. Excellent condition.

WHITIN SCHWEITER QUILLERS WITH AUTOMATIC LOADERS

2—42 spindle 1945 Model with 2 1950 Automatic Loaders. All set up—ready for operation. Condition excellent.

9 ATWOOD UNIRAIL 1 LB. TWISTERS
1952 MODEL
ALMOST NEW

184 spindles each, 5½" gauge—2 motors per machine—Nylon spindle bobbins available with machines.

42 SPINDLES FOSTER 75-A CONERS

Complete with pineapples and stainless steel emulsion troughs and rolls.

8—ATWOOD MODEL 110 1948 1 LB. TWISTERS

204 spindles each. 6" gauge—2 motors per machine—Nylon spindle bobbins available with machines.

4—FLETCHER DOUBLER TWISTERS

½ lb. pkge. 90 spindles per machine. 5" spacing. 3" Eadie rings. Double 2" feed rolls. Excellent condition.

NARROW FABRIC EQUIPMENT

●

4—1941 20' 6" 3 SECTION LOOMS

111 space battens. 1" reel opening. Roller bearing cam motions. V-belt motor drive.

1—3 CAN 18" FACE FINISHING MACHINE

Complete with quetsch, calender, let-off and drives.

1—8 CAN FINISHING MACHINE

40" face. Complete with quetsch, Reeves drive, overhead tape carrying frame.

12—RECONDITIONED FLETCHER 15' 8" LOOMS

Large pkge. battens; Cam motions. Motor driven.

100—MILTON BEAMS

39" traverse. 18" flanges.

8—7' 3" REBUILT FLETCHER LOOMS

Double deck battens. Cam motions. Motor drive.

2 LATE TYPE SHEARING MACHINES

1—1950 Hermas,
1—Parks & Woolson

All items subject to prior sale. ***WRITE, PHONE OR WIRE FOR FURTHER INFORMATION.*** This is only a partial listing.

Wm. Rabinowitz & Sons
TEXTILE MACHINERY, BOBBINS & SUPPLIES
214 - 222 Hamilton Street Phone HEmlock 3-7497 3-7498 Allentown, Pa.

MILLER MACHINERY CO.

66 RAILROAD AVE. PATERSON, N. J.
Tel. Sh 2-5467-8

Textile Machinery and Supplies

BOUGHT AND SOLD
Warpers • Winders & Quillers • Looms

HOISERY MACHINES

used and rebuilt
KNITTERS — RIBBERS — LOOPERS
CYLINDERS — DIALS — TRANSFERS
HOSIERY NEEDLES AND PARTS
JOS. BRESANI
N. W. Cor. Hancock & Somerset Streets
Phila. 33, Pa.

WE BUY AND SELL
TEXTILE MACHINERY
THROUGHOUT THE WORLD!
GEORGE W. EGAN
"The Machinery Man Known Everywhere"
WOONSOCKET, R. I. - Phone Woon 3258

LIQUIDATION SALE

1—Hinnekens Boil-Off $3000.00
2—V.V. 65" & 54" Tubers
1—50" 3-roll Silk Calender.....$1600.00
2—60" S.S. Jiggs
1—Johnson 7 Can Slasher.....$1200.00
2—Rodney Hunt Tru Shade S.S. 72" 8 String B.B. Piece Dye Kettles, 8 Bar Hump Reel .....$1500.00 each
28—C & K Automatic W-2 Looms 92", 4 x 1 Box, Magazine Type, Electric Stop Motion, 3 Shift Counter & Motor $100.00 each
1—3-roll 68" Hydraulic 20 Ton Calendar $4000.00
1—V.V. 48" Decatizer, L-4 Nash Pump, Motors & Blanket.....$1200.00
1—60" 2-rubber roll Quetch rubber roll expander, S.S. Pan.....$650.00
2—Vanango Engineering Co. all Stainless Steel 200 lb. and 2—400 lb. Rotary Dyeing Machines, 1952, 94" and 46" wide, double sliding door front, ball bearing, roller chain drive with A. C. Motors
2—Merrow Sewing Machines, table & motor .....$100.00 each
1—Palmer 63" steam Jacketed #3 B.B. Reeves $1500.00
2—Textile Squeeze Sets, 98" wide, 2 rubber rolls 19" & 12" Diam. roller bearings
1—Birch Bros. Portable Rotary Mill Sewing Machine, 1951, Merrow Head 60-D3B, A. C. Motor, like new
2—P & W 66" Double Shears & Brushing Machines, Motors & Folder $350.00 each

A & M BLANK CO., INC.

301-313 East 22nd St. (at 7th Ave.) Paterson, N.J.
SHerwood 2-1367-8

REBUILT and LATE MODEL

1—P&W 68" BRUSH & SANDER, 4 roll, Mtrzd.
1—Textile 44" CALENDER, 3 roll W/Reducer & Motor.
225—ROVING CANS, 35¼" x 15½" I.D. Plastic Coated.
1—P&S 60" CARD, Single Cyl. Pin Lagged.
2—P&S Double Drum CEILING CONDENSERS.
1—Entwistle MAGAZINE CREEL, 504 Ends.
3—Gessner 72" SEMI-DECATURS, Fully Equipped.
2—C&M 72" DEWING & MOISTENING, Mtrzd.
2—P&W 66" Springfield CLOTH DOUBLERS, Mtrzd.
1—D&F 48" YARN DRESSER, Size Tank, etc.
1—Kenyon 66" TENTER DRYER, 12 Pass. Mtrzd.
1—Sargent 72" RAW STOCK DRYER, Single Conveyor.
2—P&S 6' CONE DUSTERS, Metal Bonnets.
2—DYE KETTLES 30"-70" S.S. Deep Bottoms.
1—Gessner 72" VACUUM EXTRACTOR, Pump & Motor.
3—Picker FEED HOPPERS 45"-54"-72".
6—GARNETTS 60", 3 & 4 Cyl. Units.
1—D&F 110" NAPPER GRINDER, Adjustable.
1—Hermas 48" INSPECTOR, Reversible, Mtrzd.
2—C&M 96" INSPECTORS, Reversible, Mtrzd.
4—C&K W3 Auto. 76" LOOMS, Mtrzd.
22—C&K W2 Auto. 82" LOOMS, Mtrzd.
8—C&K W3 Auto. 82" LOOMS, Mtrzd.
4—C&K 110" Auto. LOOMS, Mtrzd.
1—D&F 72" NAPPER, S.A. 14 roll.
1—Woonsocket 80" NAPPER, S.A. 12 roll, Mtrzd.
2—Gessner 72" NAPPERS, D.A. 18 roll, Mtrzd.
1—P&W 80" B.B. NAPPER, D.A. 24 roll, Mtrzd.
1—D&F 80" KNIT-GOODS NAPPER, 20 roll, Mtrzd.
1—NUB BOX for 48" Woolen Card.
1—S&L 40" Comb. OPENER & FINISHER PICKER.
1—Butterworth 256 Package S.S. PACKAGE DYEING.
2—Measuring PERCHES 64"-90", Mtrzd.
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1—Schofield 42" RAG PICKER, 1953 Model.
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1—Suter 6 fly SKEIN YARN REEL, Mtrzd.
1—Toledo CLOTH BEAM SCALE, 180 lb.
1—Toledo Fan Dial SCOOP SCALE, 30 lb.
1—Hermas 68" RAILWAY SEWING, Mtrzd.
2—C&M 72" SHEARS, Single, Flat Blade.
1—P&W 66" Davidson HI-Speed SHEAR, 3 Blade, B.B. equipped with Motors & S&L Filter Cabinets.
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2—P&S 60" B.B. GARNETT SHREDDERS.
1—C&M 84" SINGER, 3 Burner.
1—Gessner 73" 2 roll SQUEEZE.
1—SQUEEZE 60" 3 S.S. rolls.
4—ROPE SQUEEZE 18" x 18" Rubber Rolls.
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1—Van Vlan. CLIP TENTER 20'x57", Mtrzd.
1—PIN TENTER 25' x 78"—Reeves & Motor.
1—Scott CLOTH TESTER, Model Q, Mtrzd.
1—B-C WARP TYING, Portable "B"—"W" Knotters.
3—Whitin MS SCHWEITER WINDERS, 93 Spindles.
4—Foster #102 CONE & TUBE WINDERS, 80 Spindle Units, #51 Slub Catchers, Twin Motor Drives.
2—Universal #80 CONE WINDERS, 14 Spindles ea.
2—P&W 60" Fifth Ave. Model CLOTH WINDERS.
1—R&L YARN CONDITIONER, Foxboro Controls.

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4—6 SPINDLE UNIVERSAL #8 TUBERS
1—SCOTT MODEL Q TESTER 2000 LB. CAPACITY
1—16 SPINDLE SARGENT BALLING MACHINE

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1—H&B Twister 5½" x 4½", motor drive
12—Card Grinders for 40" Cards
1—Large Drill Press slow-speed
4—Terrell Roving Bobbin Strippers
4—H&B Drawing Frames, 10" coilers
2—B/C Warpers, HW 5400 HI-speed
2—Entwistle Warpers
5,000—10" x 36" Roving Cans
500—12" x 35" Roving Cans
50—Boyce Weavers Knotters, A, B, C
10,000—Dixon Saddles
5,000—Tape Drive Conversions from Mason Frames
3—#34 S/L Air Filters
1—Vacuum Stripper Tank & Pump
4—Model K & L Bobbin Strippers
200—C&K C6 Looms, Dobby 52" & up
1—XD Draper Looms, 46" cloth, dobby
48—Hunt Looms, 46" cloth, 1948 dobbies
100—XD Draper Looms, 64", dobbies
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10,000,000 Heddles, all sizes & styles
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5,000 Pick Gears, C&K Cheney Ratchet

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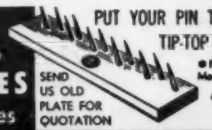

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3—H & B Single Process Pickers, 40" wide, Arnold System—1946.
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56,000—Spindles Spinning Frames, Whitin Long Draft & Whitin Superdraft 3" gauge, 256v spindles.
1—Barber-Colman Spooler, 306 spdls., Type C, Model KK—1948
1—Whitin Schweiter Quiller, 42 spdls., with Model A Bobbin Loader.
254—Crompton & Knowles C6 Looms, 4 X 1, 56" reed, motor. Age—1941.
42—Crompton & Knowles C6 Looms, 4 X 1, 56" reed, motor. Abe—1941.
70—Crompton & Knowles C6 Looms, 4 X 1, 66" reed, motor. Age—1946.
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From the former cotton weaving mill of Cluett, Peabody Co., North Grosvenor-dale, Conn.

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112—Saco-Lowell, Saco-Pettee & H&B 40' Cards.
200—Deliveries Saco-Lowell Controlled Draft Drawing—1952.
13—Saco-Lowell FS2 Roving Frames, 10x5, 120 spdls—1952.
76,000—Spdls. Whitin and H&B Spinning Frames.
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☐ **Check contents** and locations of first-aid kits. Be sure they're adequate and up to date. Here, again, your CD Director can help. He'll advise you on supplies needed for injuries due to blast, radiation, etc.

☐ **Encourage personnel** to attend Red Cross First-Aid Training Courses. They may save your life.

☐ **Encourage your staff** and your community to have their homes prepared. Run ads in your plant paper, in local newspapers, over TV and radio, on bulletin boards. Your CD Director can show you ads and official CD films or literature that you can sponsor locally. Set the standard of preparedness in your plant city. There's no better way of building prestige and good community relations—and no greater way of helping America.

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C. Chemicals and Dyestuffs.
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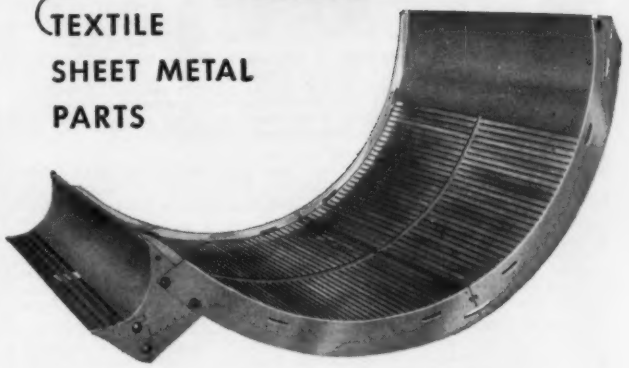
TEXTILE SHEET METAL PARTS



Card Screens

Standard type rib or perforated Card Screens are cut and assembled on special precision-built jigs of our own design.

Every piece of metal . . . every point of assembly is gauged with micrometer accuracy . . . checked and double-checked, followed by a thorough, scientific final inspection to assure setting points within standard tolerance.

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Dynamically balanced for better performance—reduce vibration to an absolute minimum.

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Picker, Condenser and Waste Machine Screens of maximum strength and durability.

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WASTE CHUTE COVERS
WASTE CHUTES
SLIVER PANS
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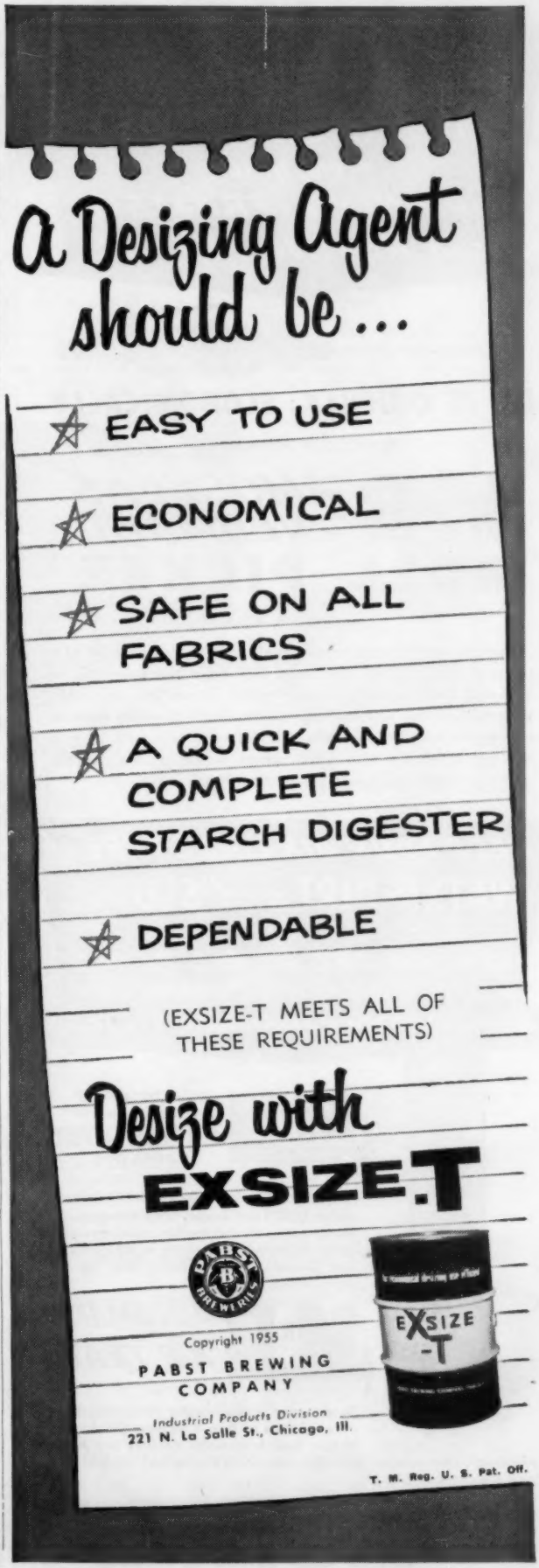

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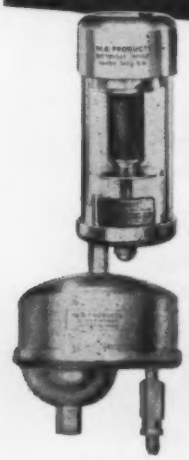

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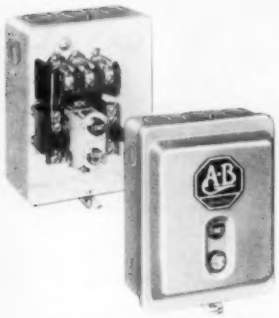

Bulletin 609 manual starters with overload breakers. Starters are rated up to 5 hp, 220 v; 7½ hp, 440-550 volts.

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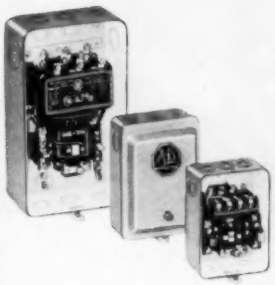
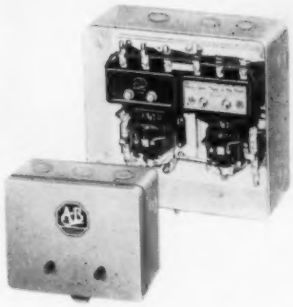
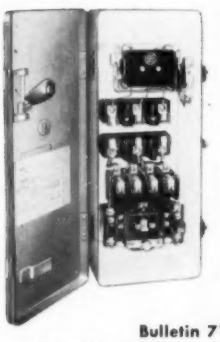


Bulletin 709 solenoid starters with overload relays. Available in eight sizes up to 300 hp, 220 v; 600 hp, 440-550 v.

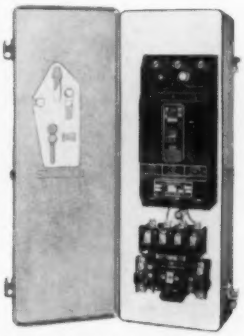


Bulletin 705 automatic reversing starters with overload relays. Up to 300 hp, 220 v; 600 hp, 440-550 volts.

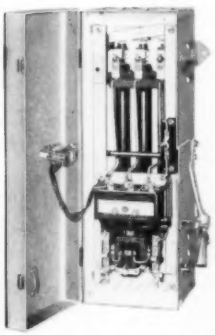


Bulletin 712 combination starters with manual disconnects. Up to 100 hp, 220 v; 200 hp, 440-550 v.

A row of Allen-Bradley Bulletin 712 combination starters in modern textile mill.



Bulletin 713 combination starters with circuit breakers. Starters are rated up to 200 hp, 220 v; 400 hp, 440-550 v.



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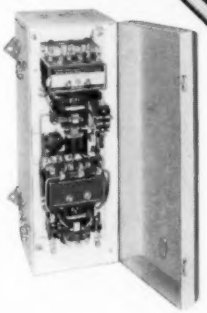
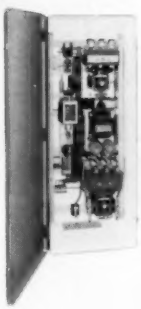
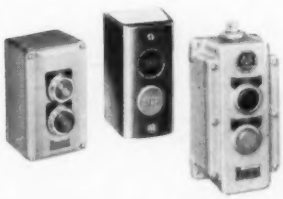


Bulletin 740 automatic 2-step resistance starters. These starters are rated up to 200 hp, 220-440-550 volts.



Bulletin 742 automatic resistance starters. Stepless acceleration. Up to 300 hp, 220 v; 600 hp, 440-550 volts.



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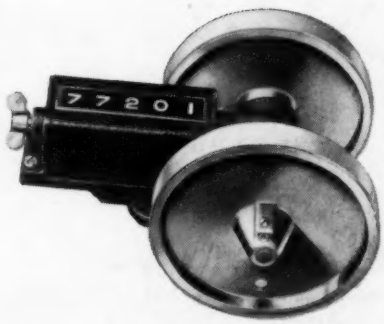

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